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THE
QUARTERLY JOURNAL
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NOVEMBER, 1928

THE SHERMAN ACT
ITS DESIGN AND ITS EFFECTS
SUMMARY

Purpose of Sherman Act, — Diverse interests affected, 5. — I. Producer interests: indirectly protected by (a) raising standards of managerial responsibility, (b) affording various classes of producers the opportunity for prudential coöperation, 8. — Inadequacy of security afforded producers under Sherman Act, 14. — II. Interests of potential producers, 15; directly protected against (a) predatory methods of competition, 19, (b) trade boycotts, 20, (c) labor conspiracies to restrict sales and employer combinations to blacklist, 21. — Evidence of rigorous effectiveness of Sherman Act in safeguarding freedom of enterprise, 21. — III. Consumer interests: directly protected by penalization of concerted efforts to curtail supply or raise prices. (a) Trade agreements for these objects absolutely illegal, 24, but trade coöperation to control conditions of competition not hindered, 26. (b) Corporate mergers, originally held beyond the reach of the law, were later, so it appeared, absolutely condemned, 31. Present interpretation more liberal, 36. — Is there justification for a legal distinction between business mergers and associations? 38. — IV. Conclusion, that experience has vindicated the general policy of the Sherman Act, 39. — Contrast with British experience, 40. — Direction in which anti-trust laws need to be supplemented, 43.

So accustomed is the present generation to thinking of the business life of the country as a unit, to regarding what is happening in every section as vitally connected with past conditions and future prospects in every other section, that it is difficult to realize that the last generation was the first to learn to look upon affairs from this *national viewpoint habitually*. And that was not an

accident. It but reflected the change in the scope of economic intercourse from local and sectional markets to national markets — a change not yet complete and which, from the nature of some industries, can never be universal. But the growth had proceeded far enough by the end of the eighties for all men to recognize it. Business men laid their plans on a new gauge; statesmen endeavored to adapt the law to a new industrial situation.

In these circumstances it is not surprising that a full century should have elapsed after the establishment of the republic before any federal action was taken to provide a positive and general regulation of trade. The power granted to Congress by Article I, Section 8, of the Constitution "to regulate commerce among the several states" had been exercised upon several occasions in respect to particular industries and specific projects.¹ Thus, the building of canals first, and later of railroads, had been fostered by several acts granting federal aid. Still later these instrumentalities of interstate commerce had been subjected to minute supervision and regulation.² Provision had also been made for the construction of several interstate bridges. But no general law applicable to every branch of trade had been passed by Congress during the first century of national life. In respect to foreign commerce, on the other hand, Congress had practically from the beginning exercised the full and complete power of regulation granted it by the same section of the Constitution which authorized federal regulation of interstate commerce. The great mass of the business transacted over state

1. See, for a comprehensive survey of the various directions in which Congress has exercised its power over interstate commerce, a series of three papers upon "Federal Incorporation," by the writer, in *Michigan Law Review*, vols. xvii-xviii (Nov. and Dec., 1918, Jan., 1919).

2. The Interstate Commerce Act of February 4, 1887; 24 Stat. 374.

boundaries remained subject solely to regulation by the states, however, in so far as such regulation was not deemed burdensome by the federal courts.³ By the Act of July 2, 1890, called the Sherman Act, Congress for the first time exerted its paramount authority so as to make every species of business conducted in the national sphere subject to a common rule. The subject-matter of that common rule was the method of organizing trade and industry.⁴

What was the nature of this common rule? What did it require? What did it forbid? These questions cannot be answered from a consideration solely of the terms in which Congress declared the rule. What was implied is fully as significant as what was expressed. The substance of the express declaration was in the following form: "Every contract . . . or conspiracy, in restraint of trade among the several states . . . is . . . illegal." And the second section of the act added that "Every person who shall monopolize or attempt to monopolize, or . . . conspire . . . to monopolize any part of the trade . . . among the several states . . . shall be deemed guilty of a misdemeanor." There is not a word here, or anywhere in the act, about competition. The familiar phrases of the economist when he speaks of current industrial organization — "private enterprise,"

3. This was by the sufferance of Congress, of course, and not a result of the express declaration of its will.

4. It is worth noting that the subject-matter of the law did not extend beyond the limits indicated. Whether or not the legal rules by which contracts are interpreted and enforced, and wrongs are determined and redressed, when these agreements and alleged wrongs occur in the course of interstate dealings, lie within the competency of Congress to adopt or change, there is no occasion here to inquire. The question of the extension of the jurisdiction of the federal government into this field has not, so far as the writer is aware, been raised; but that it will one day be asserted seems not improbable. And this notwithstanding the progress made in recent years toward uniform state laws — a movement chiefly sponsored by the American Bar Association.

"individual initiative," "freedom of opportunity," "economic liberty"—are conspicuous by their absence. Yet it must not be supposed that these things were not within the contemplation of Congress in enacting the law. Recurring to the discussion and the debates attending this legislation, it is plain that the preservation of a competitive industrial system was the main purpose it was sought to accomplish.⁵ The reason competition was not mentioned was that everyone presupposed it. The Anti-Trust Act was not to declare a new rule for the regulation of trade, but to adopt an old one. And this was so well understood that the adoption took place by indirection. Congress merely passed a law "*to protect trade and commerce against unlawful restraints and monopolies.*" In effect, thereby, it declared that, unless and until it might choose to reformulate the public policy of the United States, the production and distribution of goods in the national sphere were to be determined by the competitive adjustment of supply and demand.

It becomes apparent, therefore, that the intent of Congress which was implied in the Sherman Act was not less important than the intent which was expressed. In terms, it prohibited one species of industrial organization, or type of market arrangement. Indirectly, it sanctioned another system. If this represented the dominant purpose of the legislation, it may be worth while, perhaps, to consider now, in the light of an experience of nearly forty years, how far it has been effective. Has the end it was designed to promote been accomplished? Have the evils it was designed to suppress disappeared? Have other ends been advanced by its enforcement? Have other evils appeared, calling for a correction which its provisions do not afford?

5. See, e.g., 21 Cong. Rec. 4088, et seq.

Finally, is the policy embodied in the Sherman Act suited to present-day business conditions, or is it obstructive and obsolete? ⁶

In order to test the efficacy of this particular law, it seems expedient at the outset to pause to consider abstractly what primary interests are involved in any legislation regulating industrial organization. It is submitted that whenever the state intervenes in industry to control the form or functioning of the agencies which manage the production and distribution of goods, that intervention cannot fail to affect in some manner the interests of three principal groups. These groups may be roughly distinguished as (1) the consumers, (2) potential producers, and (3) actual producers. Whether in Tudor England, in Republican America,⁷ or in Soviet Russia, and to the benefit of whatever class it may be directed, every state intervention in industrial organization is bound in some degree to affect the welfare of each of these groups. It may be advantageous, therefore, to specify somewhat more exactly their composition and their special demands.

The consuming public includes, of course, not only ultimate consumers but also manufacturers in their capacity as purchasers of raw materials, equipment, and supplies. This group demands, above everything else, low prices. The potential producers include not only those who are weighing the prospects of profitability of a new undertaking in any given line, but also the relatively new-comers in any field who are still

6. As has been asserted by no less distinguished a body than the Committee on Revision of the Anti-Trust Laws, which was appointed by the American Bar Association in 1926, and which reported in favor of extensive changes at the 1927 Annual Meeting in Buffalo. See Reports of the American Bar Association, vol. 52 (1927), p. 249. It should be said that the Association as a body has not committed itself on this subject.

7. Democratic, if you prefer.

"growing up" to the size in which they can best utilize all their available, but in part latent, resources. They seek, above all, equal opportunity and a fair field. The third group includes all the various interests which together have established and maintain the actually functioning business units. Represented among these producer-interests are the investors and laborers. Indeed, numerically and otherwise they outrank all other classes of actual producers.

These being the three primary groups concerned in legislation regulating industrial organization, it is worth noting that each is so concerned for independent reasons. They require different things of an industrial organization, whatever may be the type sanctioned by the state. The consumer requires efficiency; the potential producer, flexibility; and the actual producer, security, or, in effect, stability. It is apparent that not all of these demands can be fully satisfied. The further one goes in recognizing and protecting the interests of one group, the more must the interests of the other groups be neglected or even denied. The state by insisting upon the very minimum prices, for example, might for a time stimulate efficiency; but that policy would run grave danger of discouraging enterprise, of stopping accumulation, and of leading to the migration of capital and labor to a more genial "climate." And so with an undue concern by the state for the interests of either of the other groups.⁸ The problem of the legislator, clearly, is to reconcile, so far as may be, the conflicting requirements, or demands, of each of these primary groups which have vital interests at stake in any regulation of industrial organization.

Looking back upon the origins of the Sherman Act,

8. As mercantilist policy fully demonstrated when it sought to exalt the actual producers without much regard for enterprisers and still less for consumers.

in the light of this analysis, and not attributing to Congress an insight into industrial affairs which it did not possess, it is fair to assume that the interests of none of these groups were entirely overlooked in the legislation of 1890. There was manifest a deep-grained conviction that a freely competitive economic system would best reconcile the diverse interests of these several groups. And it was such a system that Congress undoubtedly sought to conserve. But as the chief occasion of Congressional action was the outcry of consumers against the high-handed market policy of the early trusts, it is not surprising that the law should by its express terms have been directed mainly against the devices whereby the actual producing interests sought to make their own position more secure. As this was naturally at the expense either of the consumers or of the potential producers, sometimes more particularly of the one and sometimes of the other, one perceives the ground for a peculiar feature of the Sherman Act. It affords relief through appropriate proceedings for both consumers and potential producers, but provides no direct and positive means for the protection of actual producers. Congress did not appreciate, or at least did not choose to recognize, the expediency of providing a safe and acknowledged way to assure stability in the structure and processes of industry.

It is proposed, in the present paper, to analyze the effects of the Sherman Act by taking up in succession its application as a measure of protection for each of these three primary groups. The most convenient order of treatment appears to be from the least protected to the most protected. We shall consider first, therefore, the operation of the Sherman Act in protecting the interests of actual producers, that is, of the several interests comprising a "going concern," or business unit.

I

We have to do here chiefly with an aspect of the legal regulation of the form of industrial organization commonly termed "company law," or corporation law. As has already been stated, the federal anti-trust laws have nothing to say directly by way of definition of the respective rights and powers of the various constituent parties in an industrial enterprise. But this does not mean that they have exerted no influence in this sphere. Indirectly, their effects have been profound and far-reaching; and that in two ways. First, they have tended to check the worst evils of "inside manipulation" of corporate finances, by juggling of accounts, excessive payment of officials, stock watering, and the like, to the prejudice of various classes of security holders. They provide no penalties even for fraudulent conduct of this order. Yet it remains true that the exploitation of inactive investors by unscrupulous managerial cliques, which alternately pad maintenance charges and depreciation allowance and then understate them until the industrial properties are bled white, is far less common to-day than it was a quarter-century ago. And most important, it is far less common, or at any rate far less flagrant, among the giant mergers than among the smaller concerns in industry. This may be explained in part on the ground that the great consolidations have too much at stake to risk stooping to such manoeuvres. But the explanation is not convincing, for it takes no account of the fact that their executives would also have a correspondingly high inducement. In a much larger part the explanation may be found in the circumstance that the anti-trust laws have placed these extensive mergers "on the defensive." They have subjected them to a skeptical scrutiny which makes even a breach of

business honor, not in itself perhaps illegal, a dangerous expedient for such organizations. By the very fact of their questionable legal status from the structural viewpoint, they have been impelled functionally to adhere to standards of business behavior even somewhat above those which existing law enforces. And since from their size they tend to be the leaders in their respective industries, there has come about in the course of a generation a quite perceptible improvement in the honesty and fairness of the financial administration of corporations. There has developed a responsible attitude, somewhat of a professional sense of obligation, among managerial officials toward the equities in the business represented by different classes of securities.

This transformation is still far from affording perfect protection, it is true, to the scattered, uninformed, and inactive investors who make up the majority in the modern corporation. Professor Ripley is well justified in directing public attention to the evils which persist in corporation finance.⁹ And it may be doubted whether the simple measures he proposes would prove adequate to arrest these evils. In the end, it is entirely conceivable that the effective publicity upon which he would mainly rely cannot be achieved short of the compulsory federal incorporation of all businesses engaged in interstate commerce. Such a measure would permit the enforcement of uniform rules, not only respecting the issuance of securities but also respecting the accounting for current income, with a due regard for the contractual rights and legitimate expectations of all classes of investors. But these proposals lead beyond the scope of the present article. The limit of our present concern is to secure a just recognition of a change in the business situation during the past quarter-century

9. See W. Z. Ripley, *Main Street and Wall Street*, New York, 1926.

of which many, without reflecting upon it, are unaware. That change consists in a marked elevation in the working standards of the financial management of corporations, and it is submitted that this achievement is in considerable measure attributable to the leadership of large consolidations. The present generation of business executives is certainly less high-handed, indulges in less sharp practice, in its treatment of the interests entrusted to its charge than its predecessor. This is one of the indirect consequences of the anti-trust laws, which tended to make those who direct business mergers more conscious of their public responsibilities.

The second way in which the anti-trust laws have indirectly afforded protection to the interests of actual producers is through the preservation of a privilege to protect themselves. A purely prudential type of organization has nothing to fear from the anti-trust laws. Not only that, but, by the logic of a prohibitory law, what is not condemned is sanctioned. Hence it may fairly be said that combination in industry for the co-operative safeguarding of common interests from destructive attack is, by implication, guaranteed by these laws, which are sometimes misleadingly called anti-combination laws. And this is no mere theory. It has been verified by experience. Labor organizations, for example, may unite as many workmen as they can peacefully persuade to join their ranks for the purpose of increasing their bargaining strength. They may bargain collectively for such terms of employment as they may be able to negotiate. The courts have not been blinded by the superficial parallel between workmen combining to secure higher wages for their labor and traders combining to secure higher prices for their merchandise. They have recognized the prudential and coöperative character of trade unions, as such, in the

circumstances of modern industry, and have only restrained them from themselves engaging in predatory attacks upon consumers, or upon other classes of producers. The Supreme Court has repeatedly made this clear in its opinions. "Is interference of a labor organization by persuasion and appeal to induce a strike against low wages . . . without lawful excuse and malicious?" it inquired in a recent case, and answered, "We think not. Labor unions are recognized by the Clayton Act as legal when instituted for mutual help and lawfully carrying out their legitimate objects. They have long been thus recognized by the courts. They were organized out of the necessities of the situation. A single employee was helpless in dealing with an employer. He was dependent ordinarily on his daily wage for the maintenance of himself and family. . . . Union was essential to give laborers opportunity to deal on equality with their employer. They united to exert influence upon him and to leave him in a body in order by this inconvenience to induce him to make better terms with them. They were withholding their labor of economic value to make him pay what they thought it was worth. The right to combine for such a lawful purpose has in many years not been denied by any court."¹ It would be difficult to improve upon this statement of the practical economic grounds of labor unionization, and probably few would dispute its assertions or criticize its assumptions. If, in the concrete application of the general principle here expounded, the courts sometimes seem to take a very narrow view of what are "legitimate objects," and the ways of "lawfully carrying out" such objects, that may be cause for regret but hardly cause for attacking the

1. *American Steel Foundries v. Trades Council*, 257 U. S. 184, 209 (1921).

law. Differences of opinion are not worthy of combat unless they spring from differences of principle.

It is not only labor organizations, however, that have experienced the benefit of this principle which validates joint action for self-defense. Business interests as well have found in combination for mutual protection one of the most effective means to security and stability. The anti-trust laws accord them this privilege. In the Chicago Board of Trade case, for example, it was held that an organized market might regulate the prices of its members, out of market hours, when their private transactions might otherwise tend to impair the reputation of that market for fair dealing.² The Supreme Court stated that "the legality of an agreement or regulation cannot be determined by so simple a test, as whether it restrains competition. Every agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence. The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. . . . The evidence admitted makes it clear that the rule (what is known as the 'Call Rule') was a reasonable regulation of business consistent with the provisions of the Anti-Trust Law."³ Even more significantly, in the recent trade association cases, the maple-flooring manufacturers and the cement manufacturers were held to have acted well within their rights in agreeing to compile and distribute full statistics regarding various phases of their productive and marketing operations.⁴ The associations were construed to be

2. *Chicago Board of Trade v. United States*, 246 U. S. 231 (1918).

3. *Ibid.*, pp. 238-239.

4. *Maple-Flooring Manufacturers' Ass'n. v. United States*, 268 U. S. 583 (1925); *Cement Manufacturers' Ass'n. v. United States*, 268 U. S. 568 (1925).

essentially coöperative in form and protective in purpose. They were admittedly designed to prevent the interests of their members as producers and sellers being jeopardized by the perverse action of buyers or by the misguided action of some among their own members.

In holding that trade combination for such purposes was not in violation of the Sherman Act, the Supreme Court said, "Persons who unite in gathering and disseminating information in trade journals and statistical reports of industry, who gather and publish statistics as to the amount of production of commodities in interstate commerce and who report market prices are not engaged in unlawful conspiracies in restraint of trade merely because the ultimate result of their efforts may be to stabilize prices or limit production through a better understanding of economic laws and a more general ability to conform to them. . . . We realize that such information gathered and disseminated among the members of a trade or business may be the basis of an agreement or concerted action to lessen production arbitrarily or to raise prices . . . but in the absence of proof of such agreement or concerted action having been actually reached or actually attempted, in the present plan of operation of defendants we can find no basis . . . for the inference that such concerted action will *necessarily* result." ⁵

These cases clearly show that the anti-trust laws sanction a wide range of discretion in the choice of methods of self-defense by producers. Tho it be only negatively and indirectly, nevertheless assuredly, the Sherman Act as a fundamental regulation of industrial organization did provide for the protection of the interests of the producing classes. Granting this, however, by no means entails the further concession

5. 268 U. S., 585-587. Italics not in original.

that the rule established affords a proper and adequate protection to these vested interests. Actually, it does not. The whole field of the relations between employer and employee, investor and promoter, stock-holder and executive officer — the field of intra-business-unit relations — is turbulent, unsettled, and full of suspicion and friction.⁶ It ought not to be. Yet this condition must remain chronic as long as the legal policy governing industrial organization remains, in this aspect, one of the present model. While the policy of the law continues to invite groups of producers to look out for their own interests, and to redress their own grievances, one would be sanguine indeed who expected that to be done always, or even normally, with moderation. In the thick of a fight, men being men, a nice consideration of the interests of others, and particularly of adversaries, has small chance. Only when the federal government assumes its social responsibility within this constitutional province, and regulates by positive measures the adjustment of conflicting producer interests, may one reasonably anticipate the long-sought millennium of industrial peace, financial security, and

6. This point has been elaborately argued and convincingly established, in respect to the indefiniteness of the rights and duties of promoters, by Nathan Isaacs in an article on "The Promoter: A Legislative Problem," *Harvard Law Review*, lviii, 887 (May, 1925).

In the literature of the labor problem there is abundant recognition of the need for a new and clearly defined conception of the legal rights and duties created by the employment relation. This is particularly emphasized by writers treating of the employee representation movement and programs for the settlement of industrial disputes. It must suffice here to refer only to fragments of this extensive literature: J. R. Commons, *Industrial Government*, New York, 1921; Frank Tannenbaum, *The Labor Movement*, New York, 1921; E. R. Burton, *Employee Representation*, Baltimore, 1926; Glenn Frank, *The Politics of Industry*, New York, 1919; J. Myers, *Representative Government in Industry*, New York, 1924; H. B. Higgins, "A New Province for Law and Order," *Harvard Law Review*, xxix, 13-39; W. Jethro Brown, "Industrial Courts in Australia," *Journal of Comparative Legislation and International Law*, ii, 169-188.

business stability. This does not necessitate the assumption by government of a coercive control of the terms and conditions of industrial "co-partnership." It does necessitate the definition and enforcement by government of rules declaring how those terms and conditions shall be mutually determined. Perhaps in addition there may be necessary some indication of the limits beyond which even the adjustments that spring from free contract cannot be respected. The time is ripe for experiment in this direction. In sum, one may state at once that it is as a means to the protection of producer-interests in industry that the Sherman Anti-Trust Law has been proved by experience most signally deficient.

II

The Sherman Act, in the second place, may be considered as a measure for the protection of potential producers. In this aspect it operates to assure the maintenance of freedom of enterprise. This has often been considered as its primary purpose. The Supreme Court itself has on some occasions expressed this view. Thus in the *Colgate* case it was stated, "The purpose of the Sherman Act is to prohibit monopolies, contracts and combinations which probably would unduly interfere with the free exercise of their rights by those engaged, or who wish to engage, in trade and commerce, — in a word to *preserve the right of freedom of trade.*"⁷ This is a plain and unequivocal declaration that the law aims to protect potential producers. No doubt Congress had in mind, in enacting the law, the interests of traders, but, as has already been shown, these were by no means the exclusive concern of Congress. Yet it was chiefly

7. *United States v. Colgate & Co.*, 250 U. S., 300, 307 (1919). Italics not in original.

through the assurance given of freedom of enterprise that competition was to be maintained. And this competition was expected to safeguard the interests of other classes, including consumers.

In three different ways the Sherman Act has been applied for the protection of free enterprise. Under it (1) unfair methods of competition, (2) trade boycotts, and (3) labor combinations to restrict the markets of employers, have been suppressed. It is true that the Sherman Act does not expressly condemn unfair methods of competition. This was done only in the Federal Trade Commission Act (Section V) of 1914.⁸ But this act was essentially a supplement of the Sherman Act, even if not in form an amendment thereof. Moreover, under the Sherman Act itself, particularly after the introduction of the rule of reason in 1911, the use of unfair methods against competitors has come to be the principal criterion of the existence of the monopolistic intent which the law condemns. In other words, the lawfulness of an industrial consolidation or merger is adjudged primarily from its course of conduct toward trade competitors. If it endeavors by unfair and discriminatory methods to exclude others from the field, it most clearly evinces the purpose to monopolize, which is forbidden. Even prior to the adoption of the Federal Trade Commission Act, therefore, the anti-trust laws did operate to prevent unfair oppression by a certain class of business enterprises. But, leaving out the element of conspiracy or joint use of unfair tactics by several competitors against outsiders, the law reached effectively only industrial consolidations. It did not regulate the smaller business units in any trade, even tho these might be persistent practitioners of aggressive tactics, designed to hinder others rather than to advance their own in-

8. Act of September 26, 1914 (38 Stat. 717).

terests. It is significant that of the eight anti-trust decrees entered in the years following the Standard Oil and American Tobacco cases in 1911, which condemned specific types of unfair competition as used by an individual concern, every one was directed against a merger which was prosecuted as such, that is, because of its structural characteristics.⁹ What the Federal Trade Commission Act accomplished, therefore, was chiefly to extend the regulation of unfair methods of competition from business mergers to all business concerns, whatever their size, engaged in interstate commerce. The act also provided for the creation of an administrative agency to enforce the law. Moreover, through the administrative and judicial interpretation of Section V it has now been established that the kinds of business policies subject to regulation are not alone those tending to bring about monopoly or such as were condemned by the common law, but include as well policies or methods which are inherently unethical because of their tendency to deceive and thereby prejudice con-

9. The following decrees were entered between 1911 and 1916 condemning various types of unfair competition under the Sherman Act.

United States *v.* General Electric Company, Consent Decree, October 12, 1911. See Decrees and Judgments in Anti-Trust Cases, Washington, 1918, p. 267.

United States *v.* American Tobacco Company, Final Decree, November 16, 1911. *Ibid.*, pp. 165, 188, 189.

United States *v.* Dupont-De Nemours Company, Final Decree, June 13, 1912. *Ibid.*, pp. 193, 203.

United States *v.* Burroughs Adding Machine Company, Consent Decree, March 3, 1913. *Ibid.*, pp. 457, 458.

United States *v.* American Thread Company, Consent Decree, June 2, 1914. *Ibid.*, pp. 449, 454, 455.

United States *v.* Great Lakes Towing Company, Final Decree, February 13, 1915. *Ibid.*, p. 253.

United States *v.* Corn Products Refining Company, Final Decree, November 13, 1915. *Ibid.*, pp. 440, 448.

United States *v.* National Cash Register Company, Consent Decree, February 1, 1916. *Ibid.*, pp. 315, 316, 319.

For further discussion of unfair competition under the Sherman Act, see Public Regulation of Competitive Practices, published by the National Industrial Conference Board, New York, 1925, pp. 42-45.

sumers. This was most clearly shown in the *Winsted* case, which bore out the construction placed upon the law by the Supreme Court in the first authoritative interpretation of its provisions, namely, in the *Gratz* case.¹ In the last named case the Court had declared: "The words 'unfair methods of competition' are not defined by the statute and their exact meaning is in dispute . . . they are clearly inapplicable to practices never before regarded as opposed to good morals because characterized by deception, bad faith or oppression, or as against public policy because of their dangerous tendency unduly to hinder competition or create a monopoly." In the *Winsted Hosiery* case the Court held that the time-honored practice of misbranding textile fabrics could be forbidden by the Commission through an administrative order, even tho the trade customers of a manufacturer were not thereby deceived, but only the ultimate buyers. It has been clearly established, therefore, that not only acts of aggression directed against and designed to injure particular competitors are within the scope of legal regulation, but also those that create conditions inimical to honest enterprise in general. In this sense the anti-trust laws operate to assure, so far as may be, that survival and success in business shall be based upon the real merit of the goods and services offered in the market. It will not be necessary in this connection to discuss in detail the various types of practices which have been subjected to regulation.²

1. *Federal Trade Commission v. Winsted Hosiery Co.*, 258 U. S. 483 (1922).

Federal Trade Commission v. Gratz, 253 U. S. 421 (1920).

2. The writer's detailed analysis of this subject may be found in his *Public Regulation of Competitive Practices*. Mr. G. C. Henderson's admirable study, *The Federal Trade Commission* (New Haven, 1925), is developed more from the procedural than from the substantive point of view. See also my article, "The Federal Trade Commission: A Critical Survey," *Quarterly Journal of Economics*, August, 1926.

Confederacies among traders designed to eliminate obnoxious competitors or to preserve intact the traditional channels of trade have been frequently condemned under the Sherman Act. The leading case is the Eastern States' Retail Lumber case, in which a combination of retail dealers to boycott wholesalers who sold directly to consumers was suppressed.³ There was no evidence of an express agreement among the members of the defendant association not to deal with the obnoxious wholesalers, but a list of such wholesalers was circulated from time to time and the Court found that this gave evidence of a purpose to blacklist them. It declared: "When viewed in the light of the history of these associations, and the conflict in which they were engaged to keep the retail trade to themselves . . . there can be but one purpose in giving the information in this form to the members of the association . . . these lists were quite commonly spoken of as blacklists. . . . True it is that there is no agreement among the retailers to refrain from dealing with listed wholesalers nor is there any penalty annexed for the failure so to do, but he is blind indeed who does not see the purpose of the periodical and predetermined circulation of this report to put the ban upon wholesale dealers whose names appear in the list."⁴ An extreme case of interference with free enterprise was exhibited in *United States v. Brims*. The contractors and mill-work manufacturers of Chicago had agreed to employ only union men in consideration that the union members, whether or not in the employ of these particular contractors and planing mills, would not work upon mill-work shipped into Chicago, whether union or non-

3. *Eastern States' Lumber Dealers' Ass'n v. United States*, 234 U. S. 600 (1915). See also *Thomsen v. Cayer*, 243 U. S. 66 (1917).

4. 234 U. S. 608.

union made. This put a Chinese Wall around the Chicago market for mill-work supplies. The Supreme Court roundly denounced the arrangement, stating that, "As intended by all the parties, the so-called outside competition was cut down and thereby interstate commerce directly and seriously impeded."⁵

Of similar nature to the foregoing class of cases, those arising out of quite different economic conflicts, are those in which labor organizations have attempted to interfere with the business of employers in order to enforce their bargaining demands. It has been consistently held that trade unions may stop production of an employer so far as they are able through strikes,⁶ but that they may not obstruct his trade by bringing pressure upon dealers or other outsiders, who have no connection with the immediate dispute. The leading case is the Danbury Hatters' case, in which the members of a local union secured the coöperation not only of other unions in the same trade scattered throughout the country, but also of all the locals of the American Federation of Labor, in withholding trade from any dealer who should buy hats made by the Danbury manufacturer with whom they were having a dispute. This was held to be in restraint of the interstate trade of the employer, and triple damages were obtained in a suit under Section VII of the Sherman Act.⁷ In a series of cases since that epochal decision, the use of the boycott by trade unions has been repeatedly condemned by the courts.⁸ In the most recent case it was held that even a boycott directed against the products of a manufacturer

5. *United States v. Brims*, 272 U. S. 549 (1926).

6. *United Mine Workers v. Coronado Coal Company*, 259 U. S. 344 (1922). *United Leather Workers v. Herkert*, 265 U. S. 457 (1924).

7. *Loew v. Lawlor*, 208 U. S. 274 (1908).

8. *Gompers v. Bucks Stove and Range Company*, 221 U. S. 418 (1911). *Duplex v. Deering*, 254 U. S. 443 (1921). *United States v. Brims*, 272 U. S. 549 (1926).

with whom a union was in dispute, but not against his customers as such and not involving other unionists than these engaged in the particular trade, was within the prohibition of the Sherman Act.⁹ The main point in this decision was that the workmen not themselves employed by the obnoxious employer could not bring pressure upon his customers by refusing to work upon his products which had passed into the channels of interstate commerce. It is clear, therefore, that labor combinations have no greater privileges than trade confederacies to interfere with the sales of a business enterprise. They cannot coerce a producer to adopt a course of action which conforms to their interest, in this fashion. But it should not be supposed that trade unions are under any greater disabilities in this respect than any other type of business organization.¹ It is simply that the anti-trust policy will not countenance obstruction to freedom of enterprise from any quarter. Every producer has the right to offer his goods upon such terms and to such parties as he may deem fit, and concerted action to force him to adopt policies which he would not voluntarily adopt represents an abridgment of his liberty. This the courts will not permit.

That the obstacles to entrance and freedom of contract in the several lines of trade and industry have actually been measurably protected by the Sherman Act, seems clear from experience. There are, of course, economic obstacles which no law can overcome. These restrict business enterprise to the fortunate ones who have the capital, capacity, and foresight to take advan-

9. *Bedford Stone Company v. Stone Cutters' Union*, 274 U. S. 37 (1927).

1. Employers' associations have also been restrained from interfering with the laborers' free access to the labor market, so far as this is interstate in character. See *Industrial Ass'n. of San Francisco v. United States*, 268 U. S. 64 (1924); and *Anderson v. Ship Owners' Ass'n*, 272 U. S. 359 (1926).

tage of favorable market opportunities. But artificial obstacles to business enterprise have been reduced, if not eliminated, by the operation of the anti-trust laws. Discriminatory prices, railroad rebates, exclusive dealer arrangements, all kinds of unfriendly boycotts — these were formerly used frequently and effectively to control the entrance to particular lines of trade and to limit the growth of independent producers to somewhat less than what might have been realized upon the basis of their relative efficiency. That these things no longer hamper business competition it would be fatuous to suppose. But that they have been greatly restricted is evidenced by the fact that in almost every line of trade the independent producers as a class have outstripped the consolidations in the general expansion of industry in recent years. There is hardly an industry, aside from those rigidly controlled through patents, in which an increasing proportion of the total output is not made by the relatively small-scale concerns.² In the basic industries like steel, sugar, paper, glass, oil, and various kinds of machinery, almost without exception, it has been the experience that the number, and volume of output, of independent producers have grown more rapidly than has the scale of operations of the consolidations in these lines. This may be taken as an indication that the Sherman Act has been effective as a measure of protection for free enterprise. In this aspect the legal regulation of industrial organization has been so effectively supplemented by the 1914 legislation that it does not appear to be deficient. There seems to be no occasion,

2. The General Electric Company in the electrical appliance and machinery trade, the United Shoe Machinery Company, the National Cash Register Company, and the Eastman Kodak Company may be cited as consolidations which appear to have steadily maintained and even increased their relative output. But it should be noted that each of these companies is protected against the growth of competition by numerous patents, to the number of which they are constantly adding.

either, to criticize the Sherman Act in this field of its application as excessively stringent. There is every reason, not only from the point of view of those who wish to risk their capital in trade, but also from the point of view of the social interests, to keep the field of business open to new enterprise.

III

The protection of consumers was undoubtedly the most important object which occasioned the original enactment of the anti-trust law. How far has the law succeeded in assuring to consumers abundant supplies of goods at reasonable prices? This, concretely, is the question we have to consider. It may be discussed in the light of the effectiveness of the law in preventing organization designed to curtail production and raise prices. We shall assume, in other words, that in the absence of such organizations competition does induce the output of various goods in quantities such that the prices they respectively command in the market will just cover the necessary costs of production.

Two types of organizations of the character described must be distinguished. They are business confederacies and business mergers. The first involve simply agreements among independent producers upon particular aspects of their business policy. The second involve the complete proprietary unification of the facilities of production, so far as these are represented by those who join the consolidation. The application of the Sherman Act to trade agreements has been much more consistent throughout the whole period of the development of the federal law in this field than has its application to business fusions. True, one cannot say that there has been no evolution of anti-trust policy in the former sphere. Changes have been fairly notable, but they have been

continuous and in approximately the same direction. On the other hand, the interpretation of the law with respect to industrial consolidations has shifted from one extreme to the other in a rather confusing way. It will help to clarify the description of these developments, if the judicial interpretations of the two types of business organization are treated separately. We shall first discuss the cases dealing with trade agreements.

The Trans-Missouri Freight Association case definitely established the principle that confederacies for controlling the market are unlawful under the Sherman Act, provided that interstate commerce be involved and irrespective of the beneficent effects which a given confederacy may both contemplate and achieve. It was strongly urged upon the Supreme Court in this case that the railroads, which made up the membership of the defendant association, were reduced to a distressing and even ruinous condition by competition in rates, and that, their object being confined to the maintenance of fair rates, giving only a reasonable return upon their investment, the combination should not be regarded as violative of the statute. But the Court refused to accede to these contentions. It said: "We are asked to hold that the act of Congress excepts contracts which are not in unreasonable restraint of trade and which only keep rates up to a reasonable price, notwithstanding the language of the act makes no such exception. In other words, we are asked to read into the act by way of judicial legislation an exception that is not placed there by the law-making branch of the government, and this is to be done upon the theory that the impolicy of such legislation is so clear that it cannot be supposed Congress intended the natural import of the language it used. This we cannot and ought not to do. That impolicy is not so clear, nor are the reasons for the

exceptions so potent as to permit us to interpolate an exception into the language of the act, and thus to materially alter its meaning and effect."³

The Court having considered all aspects of the situation and reached this definite conclusion, it could only be by a deliberate change in policy that agreements among competitors to curtail production or control prices, or in any other way to restrict market competition, could be taken out of the prohibitions of the law on account of the reasonableness of their terms or of the beneficence of their consequences. But since the primary defendants in this case were railroads actually engaged in interstate transportation, and therefore inevitably affecting interstate commerce by their rate agreement, there remained the question whether the same principle would apply to manufacturers and merchants who were not in all their operations engaged in interstate commerce. These doubts were set at rest by the *Addyston Pipe* case.⁴ The defendants in this proceeding were manufacturers of water pipe who had entered into an agreement dividing sales territory and fixing prices. The Supreme Court held that the restraint of trade effected by this agreement was a direct obstruction to interstate commerce. The Court declared: "It was the purpose of the combination to directly and by means of such combination increase the price for which all contracts for the delivery of pipe within the territory . . . described should be made, and the latter result was to be achieved by abolishing all competition between the parties to the combination. The direct and important result of the combination was therefore necessarily a restraint upon inter-

3. *United States v. Trans-Missouri Freight Association*, 166 U. S. 290, 340 (1897).

4. *Addyston Pipe and Foundry Company v. United States*, 175 U. S. 211 (1899).

state commerce in respect to articles manufactured by any of the parties to it to be transported beyond the state in which they were made . . . Any agreement or combination which directly operates not only upon the manufacture, but upon the sale, transportation and delivery of an article in interstate commerce, by preventing or restricting its sale, thereby regulates interstate commerce to that extent and to the same extent trenches upon the power of the national legislature and violates the statute." ⁵

Since the explicit denouncement of combinations for controlling the market in these cases, only three really debatable questions have arisen regarding the lawfulness of trade agreements. These may be succinctly enumerated. (1) Is every *regulation* of competition among nominal trade competitors *necessarily* a restraint of trade and therefore illegal? (2) By the facts presented in any given case, is agreement or concert shown actually to exist? (3) After the introduction of the "rule of reason" in 1911, was not the law so changed that *fair and reasonable* price agreements were removed from the ban of the law?

(1) In answer to the first question, it has been definitively established by at least two outstanding cases that not every agreement among trade competitors amounts perforce to a restraint of trade, but only such as tend to destroy the effectiveness of competition. In the Chicago Board of Trade case the defendant organization, composed of dealers in grain operating upon a public market in Chicago, was held not to have violated the law by adopting its "Call Rule." By this rule the members of the Board of Trade agreed that none of them would buy or sell grain in the hours between the closing of the market on one market day and the opening of the

5. 175 U. S. 240, 242.

market on the succeeding market day, except at the closing price upon the exchange. It was contended that this rule was adopted for the purpose of protecting the interests of all buyers and sellers who might find it necessary to have their transactions consummated during "off hours." It assured them the same fair and reasonable prices prevailing in the public market, notwithstanding that their transaction might not take place therein. The Supreme Court adopted this view of the regulation and held that the defendant association had not violated the anti-trust law, as has already been noted in another connection.⁶ Moreover, it was pointed out by the Court that agreements regulating the hours in which business may be done are common and that it has never been supposed that combination for such purposes is illegal.

In the Window Glass Manufacturers' Association case, the Court went further than ever before in sanctioning agreement among competitors respecting an important phase of their business policy.⁷ Members of the association were manufacturers of hand-blown window glass. By a trade custom of long standing they entered into a collective agreement with a trade union of their skilled employees, which not only fixed wages but also regulated the period of production for each manufacturer. There were special circumstances in this trade, however, which in the view of the Court seemed to condone the agreement. The hand-blown window-glass industry had been severely hit by the competition of machine-blown window glass. The trade was declining, and the skilled workers and the manufacturers employing them were endeavoring simply to ameliorate the distressing conditions attending their gradual elimina-

6. *Chicago Board of Trade v. United States*, 246 U. S. 231, 238 (1918).

7. *National Association of Window Glass Manufacturers v. United States*, 263 U. S. 403 (1923).

tion from the window-glass industry. Moreover, the restraint upon trade was not a direct and immediate outcome of an agreement simply among the manufacturers. It was incidental to the collective bargain with the employees, and in some measure at least was designed for the latter's protection. Finally, the agreement among the hand-blown window-glass manufacturers was ineffectual to control the supply of window glass, since the major portion of that product at the time of the agreement came from shops using the machine method.

It is clear from these two cases that coöperation among trade competitors is not of itself illegal. They may coöperate for any purpose which fosters trade, stabilizes business, improves production methods, or for any other legitimate end. What they cannot do under the law is to abolish market competition, and substitute their collective will for the spontaneous adjustment of supply to demand, in the determination of the terms of sale. As one writer has observed, producers may act together to improve the *conditions* of their trade competition, but not to fix the *terms*, or the *outcome*, of their competition.⁸

(2) Regarding the second question left open after the Trans-Missouri and the Addyston Pipe cases, the existence of agreement is always essential to bring trade coöperation within the prohibitions of the anti-trust law. But the agreement may not be expressed. It may be implied from the course of dealing of the parties. For a long time it was supposed that almost any concerted action among trade competitors evidenced an implicit agreement to stifle competition.⁹ But the Supreme

8. Cf. D. H. McGregor, *International Cartels and Combines*, published by the Secretariat of the League of Nations, Geneva, preparatory to the International Economic Conference at Brussels, May, 1927.

9. See *American Column and Lumber Company v. United States*, 257 U. S. 377 (1921); and *United States v. American Linseed Company et al.*, 262 U. S. 371 (1923).

Court has latterly come to recognize that there is a wide sphere for trade coöperation which does not involve necessarily any element of agreement regarding the essential features of the market policy of the co-operators. In the recent trade association cases the Court has particularly emphasized the permissibility, and even the desirability, of independent producers in any line of industry acting together to assemble and distribute a great variety of trade information.¹ In these cases it was held that the coöperation of the defendants in furnishing statistics upon production, sales, shipments, freight rates, and even prices, did not of itself evidence any purpose to control the market. In the *Maple-Flooring* case, the Supreme Court significantly stated: "Free competition means a free and open market among both the dealers and sellers for the sale and distribution of commodities. Competition does not become less free merely because the conduct of commercial operations becomes more intelligent through the free distribution of knowledge about all the essential factors entering into the commercial transaction. . . . Restraint upon free competition begins when improper use is made of the information through any concerted action which operates to restrain the freedom of action of those who buy and sell. . . . Persons who unite in gathering and disseminating information . . . are not engaged in unlawful conspiracies in restraint of trade merely because the ultimate result may be to stabilize prices or limit production through a better understanding of economic laws and a more general ability to conform to them."²

(3) In view of the express recognition by the Supreme

1. *Maple-Flooring Association v. United States*, 268 U. S. 562 (1925).
Cement Manufacturers' Ass'n v. United States, 268 U. S. 588 (1925).

2. 263 U. S. 583.

Court in the Standard Oil case, that its construction of the Sherman Act as condemning only unreasonable or undue restraints of trade might be regarded as to some extent qualifying the decision in the Trans-Missouri Freight Association case, there were many who embraced the view that even outright agreements upon prices might be sustained if only the prices were fair and reasonable.³ This view was tested in the recent Trenton Potteries case.⁴ The defendants in this case were members of the Sanitary Potteries Association, and together made approximately 82 per cent of the vitreous sanitary ware produced in the United States. It was admitted that they had entered into an agreement to maintain uniform prices for certain types of their products and to restrict sales to a special group of so-called "legitimate jobbers." The defense was that this agreement was in the interest of fair trade, and that prices had not been unduly enhanced. To these contentions the Supreme Court replied that "Only those restraints upon interstate commerce which are unreasonable are prohibited by the Sherman Act or the rule laid down . . . in the Standard Oil and Tobacco cases. But it does not follow that agreements to fix or maintain prices are reasonable restraints and therefore permitted by the statute, merely because the prices themselves are reasonable. Reasonableness is not a concept of definite and unchanging content. . . . Our view of what is a reasonable restraint of commerce is controlled by the recognized purpose of the Sherman Law itself. Whether this type of restraint is reasonable or not must be judged

3. See statement of Chief Justice White in *Standard Oil v. United States*, 221 U. S. 1, 67-68 (1911), "In so far, however, as . . . it may be conceived that the language referred to (*Trans-Missouri* and *Joint Traffic Association* cases) conflicts with the construction which we give the statute, they are necessarily now limited and qualified."

4. *United States v. Trenton Potteries Company, et al.*, 273 U. S. 392 (1927).

in part at least in the light of its effect on competition, for whatever difference of opinion there may be among economists as to the social and economic desirability of an unrestrained competitive system, it cannot be doubted that the Sherman Law . . . [is] based upon the assumption that the public interest is best protected from the evils of monopoly and price control by the maintenance of competition.

"The power to fix prices, whether reasonably exercised or not, involves power to control the market and to fix arbitrary and unreasonable prices. . . . Agreements which create such potential power may well be held to be in themselves unreasonable or unlawful restraints, without the necessity of minute inquiry whether a particular price is reasonable or unreasonable as fixed, and without placing on the government in enforcing the Sherman Act the burden of ascertaining from day to day whether it has become unreasonable through the mere variation of economic conditions."⁵ It was settled by this decision, therefore, that any agreement among trade competitors establishing a concerted or mutual, and therefore in one sense arbitrary, control of the terms upon which they will severally do business is still prohibited under the Sherman Act to the same extent and upon the same grounds as such agreements were held unlawful in the early Trans-Missouri Freight Association case.

The application of the anti-trust act to business fusions or corporate consolidations has developed many more pronounced conflicts of professional opinion, and provoked much more controversy both within and without the courts, than has its application to trade confederacies. Nevertheless, the policy of the law in

5. 273 U. S. 396-397.

this field appears now to have become fairly well crystallized. It is impossible, within the limits of the present paper, to follow in all its complexity the development of the law in respect to business mergers. It will suffice to distinguish three stages in the evolution of the policy of the law in this sphere.

As a result of the Knight case, the first proceeding under the anti-trust act of 1890 to reach the Supreme Court, it became a commonly accepted view that the law could not reach proprietary consolidations in the field of manufacturing industry.⁶ The facts in that case were that the American Sugar Refining Company, by acquiring four refineries all located in Pennsylvania, had increased its output of cane sugar to approximately 98 per cent of the total production in the United States. The Supreme Court held that these transactions evidenced only a monopolization of manufacture, and sharply distinguished such a monopoly from a monopoly of commerce. Said the Court: "Doubtless the power to control the manufacture of a given thing involves in a certain sense the control of its disposition, but this is a secondary and not a primary sense; and altho the exercise of that power may result in bringing the operation of commerce into play, it does not control it and affects it only incidently and indirectly. Commerce succeeds to manufacture, and is not a part of it."⁷

Moreover, there were expressions in the opinion which clearly indicated that the Court viewed it as beyond the power of Congress to limit the rights of citizens, or of corporations created by the states, in the purchase or sale of property. These rights were regarded as protected by the Constitution against any infringement through Congressional enactment. As manufacturing proper-

6. *United States v. E. C. Knight Company*, 156 U. S. 1 (1895).

7. 156 U. S. 12.

ties, in their very nature, must have a local situs, and as the contract for their purchase or sale must be consummated within the bounds of some particular state, as had been the case in the acquisition of the four Philadelphia refineries by the American Sugar Refining Company, it was generally thought, upon the basis of the Knight decision, that corporate mergers of competing industrial properties were in all cases exempt from the prohibitions of the Sherman Act. There was certainly ample ground for this interpretation of the decision in the Court's opinion in the Knight case, and at all events it was freely acted upon in the business world, without interference from the government, during the ensuing decade.⁸

It was only in the case of a railroad consolidation that the government eventually gave the Supreme Court another opportunity to pass upon the legality of corporate mergers. And the Supreme Court took advantage of the opportunity with such whole-hearted zeal that it appeared to have shifted to the very opposite extreme in its construction of the law as applied to industrial consolidations. It held that the merger of the Northern Pacific, Great Northern and Burlington railroad systems in that case, *since it ended the competition previously subsisting among these carriers*, was a violation of the anti-trust law. The language of the opinion was very broad. It was stated to have been settled, "That every combination . . . which would extinguish

8. The decision in the Knight case has quite generally been interpreted in recent years as having been controlled by a technicality. It is stated that the Attorney-General failed to allege and prove that a monopoly of manufacture must necessarily produce a monopoly of commerce, in the absence of foreign competition, and that it clearly indicates an intent to monopolize in violation of the law. Reading the entire opinion in 156 U. S. 1-19, one cannot fail to gain the impression that this is a charitable view of the case. See, however, W. H. Taft, *The Anti-Trust Act and the Supreme Court*, New York, 1914.

competition between otherwise competing railroads engaged in interstate trade or commerce, and which would *in that way* restrain such trade or commerce, is made illegal by the Act"; and "That combinations even among private manufacturers or dealers whereby interstate . . . commerce is restrained, are *equally* embraced by the Act."⁹ Whether the Supreme Court so intended or not, its language here was taken as a clear warning in the business world that every corporate consolidation, or even partnership, among business concerns which had previously been competitors was subject to the condemnation of the law.¹ The decision threw consternation into the ranks of large-scale business, and for a time the flood of mergers which had followed the Knight decision subsided. Meanwhile, the government proceeded with an enforcement policy of unprecedented rigor under the Taft administration.²

The cases involving the two leading examples of industrial consolidation finally reached the Supreme Court in 1911, and the decisions were rendered simultaneously.³ The Standard Oil and the American Tobacco companies were both dissolved by the Supreme Court upon the ground that their structure and conduct clearly indicated an intent to violate the Sherman Act. Nevertheless, by these decisions the Supreme Court effectively allayed the apprehension which had agitated

9. *Northern Securities Co. v. United States*, 193 U. S. 197, 331 (1904). Italics not in original.

1. See J. C. Gray, "The Merger Case," *Harvard Law Review*, xvii, 474, for example. President Roosevelt expressed a similar view and a similar apprehension of the consequences of the decision in the *Northern Securities* case upon many occasions. See his Annual Message, December 4, 1906, 59th Congress, 2d Session.

2. See O. W. Knauth, *Policy of United States toward Industrial Monopoly*, Columbia University Studies in History, Economics and Public Law, vol. lvi, chaps. 1 and 2.

3. *Standard Oil Co. v. United States*, 221 U. S. 1 (1911); *United States v. American Tobacco Co.*, 221 U. S. 106 (1911).

the business world during the years following the Northern Securities decision. The reason for this anomaly was that, in formulating the test by which the defendants in these cases were judged, the Supreme Court indicated that a new interpretation was to be given the Sherman Act. It emphatically declared that not every description of combination was to be condemned under the law. Only those consolidations that operated to restrain trade unduly and unreasonably were henceforth to be held illegal. Without stopping to inquire into the justification for this reversal of policy, it may be noted that the Court based its new interpretation of the law upon a thoro reconsideration of the common law doctrines which the Sherman Act incorporated in the federal jurisprudence. These decisions made it clear that consolidations were not to be condemned simply because of their structural characteristics. They were henceforth to be judged by their conduct. The scope of the amalgamation might create, according to the Court, a *prima facie* presumption of intent to violate the law. But it could do no more than that. The presumption might be overborne by evidence of a legitimate purpose to obtain the advantages of greater size, or scale of operations, in the production and distribution of goods, and by evidence of an intent to deal fairly with competitors and customers. The crucial question concerning the legality of mergers became, in other words, the existence of an intent to monopolize. All of the facts concerning the formation and subsequent conduct of an industrial consolidation were to be considered in determining its status under the law. Stated otherwise, a consolidation is judged, not by what it is, but by what it does.

The foregoing construction of the law has been borne out by a series of decisions since 1911, which have not

seriously modified its meaning, tho they have considerably clarified it. In the United Shoe Machinery cases,⁴ in the United States Steel Corporation case,⁵ and in the recent International Harvester case,⁶ to mention only the leading authorities, the Supreme Court has unequivocally endorsed the doctrine that size, of itself, even tho acquired through combination, is not an offense under the anti-trust law. In the United Shoe Machinery case, upholding a consolidation which acquired control of over 95 per cent of the production in its line, it was stated: "The company indeed has magnitude, but it is at once the result and cause of efficiency, and the charge that it has been oppressively used is not sustained."⁷ In the Steel Corporation case, upholding the largest consolidation ever formed, it was said: "The corporation is undoubtedly of impressive size and it takes an effort of resolution not to be affected by it or to exaggerate its influence. But we must adhere to the law and the law does not make mere size an offense or the existence of unexerted power an offense."⁸ And in the International Harvester case, upholding a decree entered nine years earlier, which left the company in possession of about 65 per cent of the trade in agricultural machinery, the Court reaffirmed this principle. "The law, however, does not make the mere size of a corporation, however impressive, or the existence of an unexerted power on its part, an offense, when unaccompanied by unlawful conduct in the exercise of its

4. *United States v. Winslow*, 227 U. S. 202 (1913); *United States v. Shoe Machinery Co.*, 247 U. S. 32 (1918). The former was a criminal proceeding and the latter a civil action. Both resulted in a complete vindication of the defendants.

5. *United States v. United States Steel Corporation*, 251 U. S. 417 (1920).

6. *United States v. International Harvester Co.*, 274 U. S. 698 (1927).

7. 247 U. S. 56.

8. 251 U. S. 451.

power.”⁹ These declarations are interpreted by some as meaning that the construction placed upon the anti-trust law in 1911 has been so far modified as to remove the *prima facie* presumption which the Court in those cases found from the act of consolidating a preponderant part of the productive facilities in the oil and tobacco industries each in a single corporation. Whether or not they are to be so interpreted, it is highly significant that in recent years not a single adverse decision has been rendered requiring the dissolution of an actually functioning business merger.¹

It appears from this summary review that there has come about a much greater liberality of the courts toward comprehensive corporate consolidations than toward associative activities of independent concerns. It may be asked precisely in what respect the judicial attitude is more liberal and why. The difference consists, essentially, in this: that the courts are willing to look at the way in which a consolidation operates and judge it on the basis of its concrete record. The actual facts are made the guide to the decision. On the other hand, if a group of independent competitors admit having, or are proved to have, engaged in any activity impairing full and free competition, the courts will not consider extenuating circumstances, or examine the actual effects of their coöperation. The courts here

9. 274 U. S. 708.

1. No account is taken here of those decisions holding unlawful, under Section 7 of the Clayton Act, the acquisition of stock in competing companies as an incident of their absorption. See, e.g., *Aluminum Co. v. Federal Trade Commission*, 284 Fed. 401 (1922), and *Federal Trade Commission v. Western Meat Co.* (and consolidated cases), 272 U. S. 554 (1926).

The validity of the statement in the text is not undermined, either, by virtue of the proceedings undertaken by the Department of Justice which forestalled the formation of the bakery consolidation in the Ward Food Products Corporation. See H. R. No. 312, 69th Congress, 1st Session, Feb. 18, 1926.

assume, by logical processes, that certain tendencies must invariably follow from the concerted action. They resurrect the hoary specter of the "economic man" and make him do puppet tricks, instead of opening their eyes to what is actually being done by the real men engaged in trade coöperation. It should be borne in mind that we speak here solely of the activities that are directly and admittedly designed to control the pace of production, or to stabilize marketing policy. These things, it has been shown, cannot be done lawfully, even tho they be done prudently.

Why has this difference in the judicial attitude toward the two distinct forms of industrial combination developed and why does it persist? The basic reason may be found, I venture, in the slowly growing, tho often inarticulate, recognition of the fact that "big business" is on the whole responsible, conservative, honest, and efficient business. There is no longer the same popular skepticism and fear of "leading companies" that there was a generation ago. Probably this is measurably justified by the growing sense of public responsibility among the executives of these giant corporations. These concerns, moreover, have been the most active in promoting industrial research. They have seldom been charged by the Federal Trade Commission with using unfair methods of competition against their rivals. Their price policies have been such as to appeal to the bargaining sense of the consuming public. On the other hand, the courts have not been impressed by any evidence of a similar degree of self-restraint and public responsibility among trade associations. They keep within the law, perhaps, but just inside of it, and only because they have to, so it appears.

Whether there is practical justification upon these grounds for the distinction made between trade con-

federacies and business mergers in the application of the anti-trust laws, it is not necessary here to decide. We only suggest that experience gives some support to such a view. The point that should be emphasized is that the courts undoubtedly do apply a different test in determining the lawfulness of trade coöperation and of business amalgamation. At the present time it cannot be doubted that the protection of the interests of consumers is much more effective in respect to the former type of interference with competition than it is with respect to the latter type.

IV

This record of the Sherman Act and these reflections upon its efficacy all serve to emphasize the conclusion that there is no economic Utopia, here or in prospect. It is only by the gradual and elastic process of the growth of traditions and standards in business, and the tentative extension and restriction of governmental authority in the correction of specific abuses, that the ideal regulation of the industrial mechanism can be approached. As a basic declaration of policy, the Sherman Act appears today perhaps more than at any time since its enactment to have justified its sponsors. It has permitted the expansion of large-scale production and large-scale distribution to whatever extent these were economically warranted or economically feasible. But it has prevented the use of uneconomic and illegitimate pressure, derived from the mere size of a business organization, for the extermination of rival producers. It has also prevented, or at any rate hindered, uneconomic and artificial arrangements for "obtaining something for nothing," or for obtaining marketing advantages upon some other basis than the merit of the goods offered. The strong and active competition of the past few

years has transmitted the fruits of industrial action to the consumers with less unearned tolls than even economists have admitted to attend the practical operation of a system of private enterprise.² And this same competition has forced the adoption of more and more efficient productive methods, where, under such circumstances, prior to the Sherman Act and even during the first decade afterward, when the scope and meaning of the law was still unsettled, there would have been only a scramble toward the "easy way out" by a collusive agreement or a proprietary merger.

The full meaning of the anti-trust policy of the United States and the full appreciation of its effects upon the industrial evolution of the United States may perhaps be better appreciated by briefly contrasting it with the policy of Great Britain in trade regulation. At the beginning of the present century, British policy was characterized by a singularly one-sided deference to the interests of actual producers. The Mogul Steamship case,³ the famous case of *Allen v. Flood*,⁴ and the Trade Disputes Act of 1906,⁵ evinced a firm resolution to afford the utmost security to this class. Traders in the protection and advancement of their business, and laborers in the improvement of their wages and working conditions, could count upon not only a very accommodating policy of non-intervention by the state, but also the assistance of the courts in standing off their victims. So far was this policy carried that it has led, since the war, to a marked reaction. The evidences of this "about face" in the policy of British trade regu-

2. As revealed by the declining profits reported per dollar of sales in the corporation income tax returns.

3. *Mogul Steamship Company v. McGregor* (1892), *Appealed Cases*, 25, also 23 Q. B. Div. 598.

4. (1898) A. C. 1.

5. 6 Edward VII, c. 47.

lation are numerous, but it must suffice here merely to list some of the most conspicuous signs of the abandonment of the old tradition.

First, there should be mentioned the appointment, by the Ministry of Reconstruction, of the Committee on Trusts, which continued its investigations under the Board of Trade after the war. In 1919 a report was submitted indicating deep misgivings as to the soundness of the pre-war industrial policy.⁶ Secondly, the Nottingham Program of the British Labor Party declared for a complete reorganization of industry, in a way that would put the government into the saddle to assure the subservience of production and distribution to the interests of consumers. Thirdly, the Trade Disputes Act Amendment of 1927 placed well-defined limitations upon the trade unions, which only two decades before had been declared above and beyond the law.⁷ Finally, there has just appeared the Yellow Book of the Liberal Party, setting forth the recommendations of the Industrial Inquiry Committee, with their emphasis on "rationalization" and state control. There is no need to mention in this connection the Whitley Councils Movement, because the Councils are essentially syndicalistic in character and provide no assurance of protection to the consumer interests. It is these interests, however, for which in one way or another the several developments enumerated above show a new and unwonted consideration. These developments signify a sharp reaction to the British pre-war tradition. The pendulum, manifestly, is swinging toward the opposite extreme, and if the Webbs carry the Labor Party along with their program, or if Mr.

6. Report of the Committee on Trusts, London, 1919, Cd. 9236.

7. Trade Union and Trade Disputes Act of July, 1927. The full text of the law is reproduced in the Monthly Labor Review, U. S. Dep't of Labor, October, 1927.

Keynes persuades the Liberal Party to adopt his program, we may yet be treated to a new demonstration of Colbert's folly.

In direct contrast to all this has been the policy of the United States toward trade regulation. At the beginning of the present century we were committed to the principle of offering full protection to consumers and to potential producers. Correlatively, numerous obstacles were put in the way of even prudential action for self-advancement by actual producers, both investors and laborers, to protect their vested interests. It has been shown, however, that in the course of the years the interpretation of the Sherman Act has been modified and "liberalized," so that the interests of consumers, in particular, are now accorded somewhat less protection than originally, and the interests of actual producers are granted a correspondingly greater security. The latter have at least the opportunity, through coöperative action, to effect a greater stability in trade. In sum, it appears that in the United States a better balanced adjustment among the divergent interests of the three principal groups concerned in the regulation of industrial organization has been maintained. To the courts, with their wide discretion in adapting the law to new conditions as they have emerged, must the principal credit for this achievement be accorded. Congress contented itself with the declaration of a fundamental principle in broad and elastic terms, and the courts have on the whole wisely exercised their discretion in the interpretation of its provisions. These distinctive features of American anti-trust policy have permitted a gradual evolution of the law, and thus the growth of those special privileges, which seldom fail to result in public pillage and to challenge drastic correction, has been arrested, if it has not been prevented.

This must not be construed as a conclusion that there is no need for modification of the existing policy of the United States in the regulation of industrial organization. There is such need, and there always will be. In particular, it has been suggested in the course of this inquiry that in the sphere of intra-business-unit relations the present regulative policy is most in need of reconsideration. But what is required, if the foregoing analysis is sound, is not a reversal but a supplementation of the current policy. By continuing to develop the federal policy of trade regulation along the lines which experience has up to now vindicated, the best prospect would seem to be offered of avoiding the evils of a radical disturbance of industrial organization, such as today threaten those countries whose regulative policies have been less solicitous to afford equal protection to producers, to consumers, and to potential enterprise.

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WATER AND THE COURSE OF EMPIRE IN NORTH AFRICA

SUMMARY

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I. THE RISE AND FALL OF MATERIAL CULTURE

WHERE the population and cultivated surface of a definite, peculiar geographic area are known to have shifted up and down between widely separated levels for several thousands of years, the suggestion is inevitable that the oscillations are somehow related to the

peculiarities of that area. The Atlas Region — also called "Africa Minor" and simply "North Africa" by the French, and "Maghreb" or "Djezirat-el-Maghreb" ("Island of the West") by the Arabs — is such an area, with such a history. In spite of its mountainous character and its insular position, between desert and sea, it has been chronically ruled by outsiders. Moreover, these imperial periods have been the stable and prosperous ones. North Africa has found it difficult to maintain a high level of material culture except in combination with regions outside.

This paradox of isolation and defensibility on the one hand, and almost perennial subjection on the other, loses much of its dramatic force in the light of economic, as distinguished from political, geography. If we draw on a map the rather flat arc from modern Tunis or old Carthage (which are within a short tram ride of each other) westward and then southward to Agadir on the Atlantic in southern Morocco, we find that the distance is about thirteen hundred miles. Nowhere is it more than two hundred miles from the coast to the southern frontier of a foot of annual rainfall — practically the limit even of dry-farming in this country of excessive evaporation — or to the last of the mountain barriers which give the region its characteristics as well as its descriptive names. In places, the distance is less than one hundred miles. The general direction of the newer and higher mountain chains is nearly parallel to the Mediterranean shore, on which they converge in the east, but in the course of thirteen hundred miles the deviation southward in the west becomes considerable. Vestiges of earlier folds lie almost squarely across the later ones, however, and any simple relief map is likely to give the false impression that east-and-west communications are easy.

On the whole, the Atlas Region presents a picture of high and rather fantastically twisted mountain chains, interspersed with a series of imperfectly connected plains, valleys, and plateaus. This chaplet of cultivable patches is narrowly strung out from east to west. In the north, the Mediterranean ports of Algiers and Tunis are almost on the same parallel of latitude with Norfolk, Virginia, while that of St. Augustine in northern Florida is far south of the oases of Figuig, Ghardaia, and Touggourt. The economically interesting part of Algeria and Tunis has a width of less than four degrees of latitude from north to south. Save for some restricted low areas on the coast, the winters are cold. The French lost a good many men in blizzards before they got over their initial delusion that Algeria was a tropical country, or at least a sub-tropical one in a sense comparable to the lost sugar, coffee, and indigo empire in the West Indies.¹ Great differences in altitude help to correct the want of variety in produce suggested by the very slight difference in latitude, but the possibilities for territorial specialization and interchange become economic realities only in periods of sufficient organization to overcome the transport difficulties and keep order. Without such organization, the Atlas Mountain country has always shown a tendency to break up into fragments. For example, the dryness of a large area in western Algeria and eastern Morocco and the presence of mountain barriers on the Moroccan side have combined to cut off the Atlantic slope of North Africa from the rest. Centuries of ancient and medieval history show that the

1. V. Demontès, *L'Algérie Economique*, i (1922), 252, 253. For the "mirage des cultures tropicales" following 1830, see vol. iii of the same work, 1926, pp. 90-104. No French writer seems to have fully appreciated the rôle of traditions and machinery remaining or remembered from the earlier colonial empire in the early delusions about Algeria. The French wanted it to be tropical, so as to fill gaps in their own production without competing with their temperate zone crops.

rich part of Morocco is closer to Spain than to Algeria, and the division of the Atlas Region into two parts has been scarcely less marked in modern times.

This historic separation of Morocco from Algeria and Tunis has been less important in its visible economic effects than the tendency of each of these main divisions to subdivide further along lines also laid down by climatic differences and mountain barriers. Along the northern coast of Tunis and eastern Algeria lies a narrow strip with sufficient rainfall and enough good land among the protecting mountains to make it definitely agricultural. Its transport problem is also simplified by nearness to the Mediterranean. Back of it is a series of progressively dryer bands, which can be farmed with much greater difficulty, yielding smaller and less certain returns, provided always that public order and roads to market are maintained. The obstacles have generally been too great for local governments to overcome. Only in the periods of union and effective administration has this intermediate zone been farmed to anything like its full capacity. In other times it has been overrun by nomadism and semi-nomadism, the predominance of one mode of exploitation or the other depending upon the amount of water and the natural facilities for defense. The southern frontier of this semi-arid belt is roughly that of one foot of rainfall annually. It is not very sharply drawn, as one year or period of years differs greatly from another, and other factors have to be considered also. Aside from the questions of defense and transport costs, the distribution of rainfall through the agricultural year is as important as the total amount, and some irrigation water is available in spots. To the south are lands so dry that nomadism is inevitable. Some relationship between the arid and semi-arid regions must be maintained, as the nomads

are obliged to move their flocks to greener pastures during the long, dry summers.

Population density and the amount of fixed property in North Africa have always depended upon the extent of the agricultural area and the methods employed. Nomads are often wealthy, tho their mode of life is rarely sumptuous. A fairly high average wealth per person is not entirely inconsistent with pastoral life; but a dense population or a large amount of property per square mile for the total amount of land used is out of the question. Moreover, administrative organization, or the State, in the European sense of the term, cannot exist among peoples always on the move. The basis of a high type of material culture has been created repeatedly in the Atlas Region in the same way: nomadism has been combatted with semi-nomadism, and the frontier of settled agriculture pushed as far toward the desert as possible.

II. RAINFALL AND CULTIVATED AREA

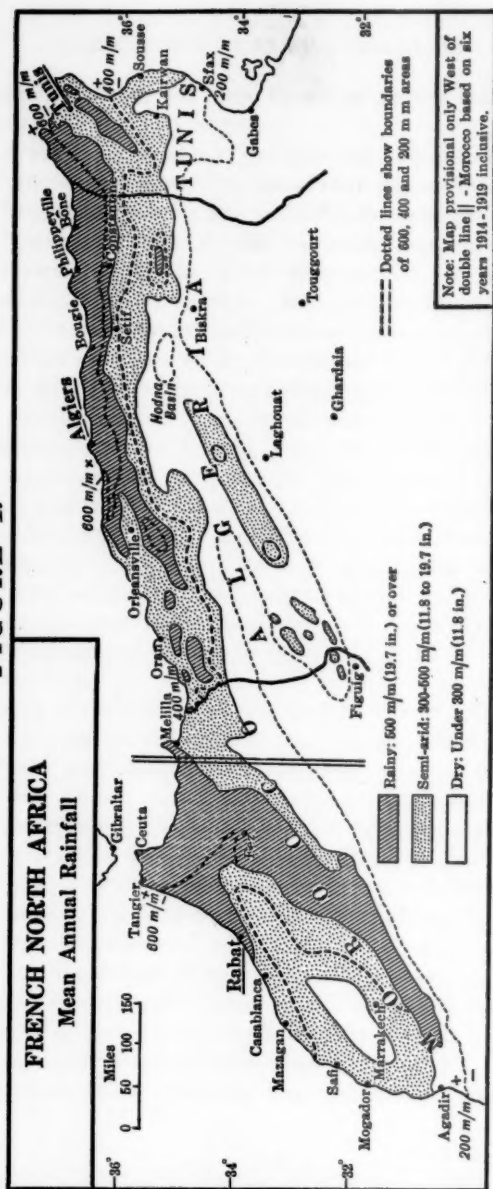
North Africa gets its rainfall mainly out of west and northwest winds, which prevail in the winter, and to a lesser degree in the fall and spring. Because of the mountain barrier (High and Middle Atlas and Riff) mentioned above, Morocco is somewhat better watered than Algeria or Tunis. The dry region east of these mountains is partly due to their presence, but the Cordilleras of Spain nearby also rob the northwest winds of a good deal of their moisture. Farther east, the Algerian littoral gets more and more rainfall as the Mediterranean widens out and the winds cross more water after having lost humidity over southwestern Europe. The mountains near the coast are also higher in eastern than in western Algeria. In general, the chains of

the Atlas system converge upon the northern coast of Tunis.

Thus the two outstanding peculiarities of the Atlas region, from the standpoint of economic exploitation, are closely related. That is, the same highlands which make transportation so difficult also precipitate the rain in some areas and cut it off from others. The familiar statement that Algeria gets progressively dryer from east to west and from north to south is true in general, but subject to many exceptions, mostly traceable to the topography. If the rainy area in the western Department of Oran is small, in revenge the semi-arid belt is extremely wide. The desert is nearest the sea in the middle Department, Algiers. South and southwest of the port of Algiers are barriers from three thousand to nearly five thousand feet high, which get a great deal of rain, but back of them is a huge dry area. What moisture remains in the winds after crossing each successive mountain chain may be drawn upon by the next if the conditions are favorable to precipitation. In the summer time, the temperatures are likely to be progressively higher inland, so that the vapor gets farther from, rather than nearer, its condensation point, and even moist winds may yield no rain at all.

Without a fairly definite notion of the distribution of rainfall, it is hardly possible to follow a discussion of the agricultural history of North Africa, much less to read intelligibly the huge controversial literature which attempts to relate and interpret the story in detail. Figure 1 is a greatly simplified sketch conveying one important set of facts: namely, the average amount of rain which falls in a year in the different areas. Observations have extended over long periods in Algeria and Tunis, and the crude earlier maps have

FIGURE 1.



been fairly well corrected. All the rainfall maps for Morocco are imperfect, and will be until more data can be accumulated. This part of the sketch given here should serve the purpose of giving a general picture of geographic distribution, tho it shows a good deal more rain than the maps constructed after the beginning of a cycle of dry years in 1920. These newer maps may be faulty in the opposite direction — the period of detailed measurements has been too short to answer that question.²

Like Egypt, the Atlas Region has always been coveted for its agricultural possibilities. The two have been linked so often since they were twin granaries of Rome that their radical dissimilarity from the standpoint of economic exploitation has sometimes been overlooked. Besides being considerably farther south, Egypt is low and fairly flat instead of high and mountainous. She is primarily an irrigated country, whereas, as we shall see later, it is useless to think of irrigating a tenth of the cultivable surface of the Atlas. Entirely unlike Egypt also, the latter has rarely been of first-rate importance

2. For colored rainfall map, scale 1 : 1,500,000, see Fascicule III (Paris, 1927) of *Atlas d'Algérie et de Tunisie*, by Aug. Bernard and R. de Flotte de Roquevaire. Also the latter's paper, *Les Cartes pluviométriques de l'Atlas d'Algérie et de Tunisie* before the *Congrès de l'Eau*, Algiers (Jan., 1928), No. 44, 29 pp. The Moroccan part of the sketch-map here presented as Fig. 1 is taken from the colored map, same scale as above, in Professor Bernard's 1921 monograph, *Le Régime des pluies au Maroc* (*Mém. de la Soc. des Sciences naturelles du Maroc*, Jan., 1921, 95 pp. and diagrams). The various editions of *Le Maroc*, by the same author, contain a slightly modified version of the old map by Theobald Fischer (*Die Klimatologie von Marokko*, Berlin, 1901 and 1908). Jury et Dedeant offered corrections to Professor Bernard's results in 1924, in No. 9 of the *Mémoires* of which the one mentioned above is No. 1. Dedeant et Roche summarize the work to 1928 in Report No. 37 before the *Congrès de l'Eau*, "Nos connaissances actuelles sur le régime des pluies au Maroc," accompanied by a map indicating much less rainfall than earlier ones. Fascicule VI of the *Atlas d'Algérie et de Tunisie* shows the monthly distribution of rainfall for these two countries. Relief maps should be used in connection with all of these studies.

as a key to commerce with other territories. Isolated by a tremendous desert from the rest of its own continent, Africa Minor has never afforded a cheap trade route to any valuable region beyond. Morocco is still insufficiently developed, its resources and climate not well enough surveyed and its history too obscure to use extensively in answering definite vital questions. This is not the case with Algeria or Tunis. These two are so similar that they may be considered as parts of the same environment. Tunis is less mountainous and has a much longer seacoast for its area. Hence its transport problem has always been simpler, and its natural resistance to the introduction of settled agriculture and orderly administration easier to overcome. The population of both is inevitably rather sparse, for the most part, scattered unevenly over a large surface, and subject for its livelihood to the vagaries of an extraordinarily capricious climate — the opposite of the case of Egypt.

If we lay aside the products of political convenience and take the southern boundary of the Algerian-Tunisian part of the Atlas Region as the limit of 200 millimeters (roughly eight inches) of rainfall, the surface included is about 291,000 square kilometers or 116,000 square miles.³ This corresponds in a very rough way with the two northern territories, which are populous and orderly enough to dispense with military rule. The semi-arid area, with 300 to 500 millimeters (roughly twelve to twenty inches) average yearly rainfall, contains around 48,000 square miles. All the "rainy" belt, with 500 millimeters and over, covers less than 29,000 square miles, or about half the area of one of our American grain states like Iowa or Illinois. Moreover, twenty inches a year is not a large amount, even when well distributed through the year and fairly dependable. At

3. Figures from de Flotte de Roquevaire, *op. cit.*, pp. 20-22.

least twenty-four would be necessary to give entire freedom from attention to dry-farming technique. For example, Des Moines, Iowa, gets over thirty-two inches, and almost our whole American wheat belt over twenty-four. Only our own western dry-farming areas have a climate comparable to that of North Africa. The Algerian-Tunisian surface, with more than a twenty-four-inch annual average is only about 12,500 square miles. This is about a sixtieth of the surface of political "Algeria" and "Tunis"—the English expression "Tunisia" is better, as it distinguishes the country from its capital. Mere size is evidently a disadvantage if it means practically empty spaces to be policed and expensively crossed to get at the good lands.

The alternate fallow year is widely employed in Mediterranean grain farming, and is a sign of scarce water rather than of backward methods. According to the 1924 *Statistique Générale de l'Algérie*,⁴ the cultivated surface of the Northern Territory of Algeria (which contains over nine tenths of the population) was 24,134 square miles, or roughly three tenths of the total (80,276 square miles). The distribution was as follows:

	<i>sq. mi.</i>
Vineyards	842
Tree crops, total	615
Sown or planted fields	12,853
Fallow fields	9,824
Total cultivated area	24,134

Page 124 of the same volume gives the area in cereals, during the crop year 1923-24, as 11,437 square miles. If we add the figure for the fallow, on the roughly accurate supposition that it was cereal land storing moisture and recuperating during that year, we get 21,261

4. Algiers, 1926, pp. 114, 115. This table was discontinued in 1925.

square miles, or 86.6 per cent of the total cultivated area. Note also that the figure given for fallow is 86 per cent of the surface sown or planted in cereals.

This fallow, which is generally used on European as well as native holdings except in the rainiest areas and the irrigated ones, raises a problem in interpreting crop statistics. These are reported on an annual basis, and in them the "cultivated area" is the cropped one only. Since it does not include the fallow, the total it expresses is reduced by that amount. For example, in 1924 the figure was 14,310 square miles instead of 24,134. A good deal of the fallow was stirred, but not for economic returns during that particular year. In fact, the plowing rendered it useless as pasture. Allowance must be made for the difference in the two methods of calculation in any attempt to estimate the population or agricultural production of which the country is capable.

To state that 14 per cent of the cereal land is cropped every year and 86 per cent every other year would be to over-simplify a complicated situation. What actually occurs is that systems of rotation are established in the rainiest localities and on the small irrigated surface used for grains. Where the annual rainfall is close to 500 millimeters it is often possible to leave the land fallow every third year only, cultivating it to store moisture, and raising different crops during the other two.

Colonial propaganda often tends to obscure the overwhelming importance of the grains by emphasizing export rather than production figures. Produce consumed on the ground contributes as much to the population and wealth of a colony as that shipped out, but this fact is much clearer to the colonist than to the reading public at home. For example, in 1924 Algeria exported wines to the value of some 780,000,000 francs, while the grain exports were only 230,000,000 francs. During 1925, a

better year for both crops, the figures were roughly 658,000,000 francs for wine and 289,000,000 francs for grain. But approximately three fourths of the wine production was exported during both years, as compared with one fourth of the grain in 1924 and one seventh in 1925.⁵ Algeria actually imported more grain than she exported in 1920 and 1922, and Tunis did likewise during the latter year.

Olive oil is the other outstanding product which is of vastly more importance for North Africa than mere commercial statistics indicate. During the decade 1913 to 1923, Algeria exported about a sixth of her production, and Tunis considerably less than half of hers. Taking the five years 1919-23 inclusive to avoid the abnormal war period, the proportion for Tunis is seen to be little changed, but Algeria exported nearly a fourth of her production in olive oil, and in the following years the fraction rose to nearly that of Tunis.⁶ The olive groves, like the grain fields, belong mainly to permanent residents of Africa, with natives in a big majority, and contribute directly to the support of the population.

There is even more temptation to overestimate the importance of a mined raw product, like the phosphates,

5. *Le Trafic et l'Outillage des Ports Nord-Africains*, Paris, 1927, René Moreux ed., pp. 15-17, 23, 22; *Statistique Générale de l'Algérie*, 1924, pp. 124, 139; and 1925, pp. 128, 139. Tunisian production and export figures, 1916-25, are given in adjacent columns in the commercial notice, *Les Céréales de la Tunisie*, Direction Générale de l'Agriculture, du Commerce et de la Colonisation, Tunis, 1926, pp. 7, 8. See also Augustin Bernard, *L'Afrique du Nord pendant la Guerre*, Paris and New Haven, 1927, Appendices, Table 3.

6. Moreux, *op. cit.*, pp. 33-35; Bernard, *op. cit.*, Appendices, Table 4; *Les Huiles Tunisiennes*, Notice Commerciale, Direction Générale de l'Agriculture, du Commerce et de la Colonisation, Tunis, 1926, pp. 5, 6; *Statistique Générale de la Tunisie*, 1925, pp. 398, 399. Tunis produced 34,000 metric tons of olive oil in 1925, and exported 15,746, valued at 110,000,000 francs — the net exports (less imports) at 100,000,000 francs. This was roughly 12 per cent of the total exports for that year, of which olive production was slightly below the 1921-25 average.

than that of largely export produce of the soil, such as wine. Tunisian phosphate exports during 1925 were valued at 139,500,000 francs, or 40 per cent higher than the net figure for olive oil. In the first case, however, we are considering practically 100 per cent of the total production, and in the second case only 46 per cent. Moreover, the phosphate corporations and the labor they employ are largely foreign to the country. Imposing as the various works are, they have little effect upon the permanent population or wealth.⁷ Cereal production is the mainstay, as in earlier times, and furnishes the one index of the level of material culture applicable to the different historical periods. It is all the more satisfactory because the olive groves and vineyards which multiplied alongside grain farming in both ancient and modern times have been so definitely related to it. Tree and vine areas are more closely restricted by climate. Because of the initial delay in returns, and an investment requiring time to recover, they are more sensitive to disorder, and can reach their full development only in a particular kind of administrative and economic atmosphere.

The Northern Territories of Algeria and Tunis — roughly the Atlas Region as distinguished from the Sahara — contain about 110,500 square miles. This may be compared in passing with the 116,000 square miles mentioned above as receiving an annual average

7. Moreaux, *op. cit.* This book contains (pp. 72 f.) an excellent discussion of the phosphate situation in North Africa and the world. For the competition of Morocco with Algeria and Tunis, see O. Depont, "Les Phosphates Algériens — Les accords phosphatiers Nord-Africains," in *La France Transméditerranéenne, L'Algérie*, Bordeaux, 1926, pp. 36-39 (reprinted from the *Sud-Ouest Économique*). Compare export figures for Algeria, 1921-25, on p. 89 of Moreaux, with the production statistics in the *Exposé de la Situation Générale de l'Algérie en 1926*, p. 336. In 1925, 93 per cent of the product was exported. Unlike Tunis and Morocco, Algeria is beginning to use a tiny fraction of her own fertilizer.

of 200 millimeters or more of rain. Of the 110,500 square miles, about 36,600 are exploited as plow land, olive groves, orchards, or vineyards.⁸ Subtracting the fallow to arrive at the net area utilized per year, we get 21,273 square miles. The surface farmed is approximately 48 per cent as large as that which has an average annual rainfall of a foot or more, and that farmed every year is about 28 per cent of the same total of rainy and semi-arid areas.

Considering the inevitable amount of waste land in any mountainous region,—unusually large in one with much salt and little humus,—the above percentages are not particularly low. It is a serious question how much greater the total area farmed in one way or another has ever been than it is now. There are plenty of particular localities which bear the traces of ancient exploitation and are now empty or less intensively used, but the opposite is true of other places. Forty years ago, when human geography was in its infancy in France, and North Africa looked far more deserted than it now does, the soil-exhaustion and climatic-change explanations were widely accepted. A fundamental upset of this kind during historic times in a relatively large environment like North Africa has never been fully established anywhere. French geographers and economists of our generation have joined forces with the historians also working on the ground, with the result that both of the above theories are now generally rejected, for want of proof and because of inconsistency with known facts. This subject will be referred to in more detail later.

8. 1924 figure for Algeria, as given above; 1925 figure for Tunis. The discrepancy in years is of no consequence, and the statistics are so compiled that this is the most satisfactory way to make the calculation. See *Statistique Générale de la Tunisie*, 1925, p. 265. According to Tableau "D" on that page, half of the plow land of Tunis was idle.

III. IRRIGATION

In the past, as in the present, a large cultivated area has been associated with the fullest possible use of a very limited amount of irrigation water; but the surface which ever has been or can be irrigated is a small fraction of that which can be, and has been, farmed. There is no serious disagreement on this point between the climatologists, agricultural experts, geographers, archeologists, and historians who have had years of first-hand contact with the country and its ruins. Irrigation works of any considerable size have a way of leaving vestiges behind, whereas dry-farming and other modes of exploitation may vanish without a trace. A novice, without special training or experience in appraising the amount of water that a dam, reservoir, or conduit has been designed to carry, in deciding whether the work in question was agricultural at all, — or, if so, in estimating the surface that the calculated head of water is capable of irrigating, — is likely to overestimate absurdly the historical significance of a few ruins.

There are some vestiges of ancient storage reservoirs in North Africa,⁹ but most of the irrigation was carried on, as in modern times, by means of a multitude of little projects. Such works are on the whole less permanent. It is impossible to make sweeping calculations applying to a wide territory on the basis of a few ruins after the lapse of centuries. The only promising method of getting at the irrigable surface is by using modern

9. Raymond Peyronnet, "L'Algérie et l'Hydraulique Agricole," *Revue agricole de l'Afrique du Nord*, 1922, No. 22, and reprints; illustration on p. 5. Dr. L. Carton studied one large Roman work on the Oued Hallouf in southern Tunis ("Essai sur les travaux hydrauliques des Romains dans la Régence de Tunis," *Bull. Archéol.*, 1888, pp. 4-8). He himself remarked in 1913 that small dams and impluviums were the rule (*L'Archéologie et l'hydraulique en Tunisie*, Direction d'Agriculture, pp. 235 f.).

measurements of the available water. With such a picture of the whole problem for checking and comparison, the fragmentary ancient vestiges and records have taken on a value, as general and connected evidence, which would otherwise be almost entirely wanting. The one thing that could shake the validity of this method of synthesizing the scattered facts would be proof of the intrinsically improbable hypothesis that the geographic environment has basically changed. Professor Stéphane Gsell undertook a systematic analysis and refutation of the climatic-change theory in the early part of his monumental work, *Histoire Ancienne de l'Afrique du Nord*.¹

1. Vol. i (1913), pp. 44-99. Also his article, "Le Climat de l'Afrique du Nord dans l'Antiquité," in *Revue Africaine*, 1911, pp. 48 f. The climatic-change theory is still taken seriously by Arthur Girault in vol. iv (1927) of the fifth edition of his *Principes de Colonisation et de Législation Coloniale*, p. 17. He gets it from Colonel Niox's old *Géographie Militaire* and the works of Professor Edouard Cat, all dated between 1888 and 1891. Professor Tenny Frank, "The Inscriptions of the Imperial Domains of Africa," *Am. Jour. of Philology*, 1926, vol. xlvii, No. 1, pp. 72, 73, who rejects the theory, ascribes its origin to Mommsen and Wilmanns, whose work on North Africa came at a time when little had been done to reclaim the dry areas. Among French scientists, E. L. Trouessart has clung hardest to the doctrine, on zoölogical grounds. Tho competent in his own field, he has continued for thirty years to miss the main historical point: has enough change in the effective water supply occurred within the period since Carthaginian rule to have a measurable effect on agriculture? His article in the *Rev. d'Hist. Nat. Appliquée*, 1920, Nos. 4, 5, takes the same tone as one published in the *Bull. de la Soc. Zool. de France*, vol. xxi, 1896. Professor L. Joleaud of the Sorbonne, a reputable geologist, thinks that North Africa, and Europe as well, are slowly drying up — not only since the opening of the Quaternary Period, but also noticeably during the past two thousand years. In a 1908 lecture, printed (Constantine, Algeria) as *Le Régime des eaux dans la région de Constantine*, he applied this idea to agricultural history with a degree of assurance which does not appear in his later work. See his 1918 article, "Sur la Géologie du Sahel et de l'Extrême-Sud Tunisiens," *Bull. de la Soc. Géol. de France*, 4e Sér., xviii, 178-201; also his useful little book, *Constantine et l'Algérie Orientale — Géographie Physique, Géologie, Biogéographie*, printed for the 1927 meeting of the Association française pour l'Avancement des Sciences. Ch. Rivière, author of a number of monographs on agriculture and applied climatology and also, with H. Lecq, of the huge *Traité*

These arguments are important enough to warrant a very brief summary. The amounts of rain and irrigation water in such a vast area are closely associated. If the ancients had more of the latter, then the climate was wetter and they needed less. Even without the fairly specific accounts of how North Africa was farmed, the supposition of a much heavier rainfall would have to be rejected as inconsistent with the ruins. Roman bridges still in place were evidently designed to span no more water than the maximum amounts flowing under them today. Ancient wells, cleaned out, show the underground water to have been at about the same depth as it is now. The aqueducts, most of which carried drinking water and are too small for irrigation purposes, could be repaired and their supply again captured. Oases mentioned as such in Roman times have about the same boundaries today, and ruins along the shores show that the same is true of the lakes.

Thirty-five years ago, M. Paul Bourde, then Director of Agriculture in Tunis, became convinced, from a study of Roman ruins, climate, and soils, that the southern part of the country was not the incurable waste it seemed, and that the ancient olive groves could be restored by the same methods.² A forest of olive trees, numbering three millions in the *caïdat* of Sfax alone, has been created almost entirely since that time. In this zone, which gets less than 300 millimeters of rain per year, the trees must be specially watered during the first two

Pratique de l'Agriculture pour le Nord de l'Afrique (Paris, 1914), has summarized the arguments against climatic change in a series of six articles ("Invariabilité du climat du nord de l'Afrique depuis les Temps historiques," *Rev. d'Hist. Nat. Appliquée*, April-October, 1920). His most interesting original contributions are an analysis of crop frontiers in ancient and modern times and a linkage of climatic change and soil exhaustion as twin myths.

2. Paul Bourde: *Rapport sur les cultures fruitières et en particulier sur la culture de l'olivier dans le centre de la Tunisie*, Tunis, 1893 and 1899.

seasons, until their roots get down to the moist subsoil. Only about ten trees to the acre can find sufficient moisture, as compared with thirty to fifty in the 300-millimeter zone and sixty-five in the rainy north. In the south, the last drop of rain-water is utilized, employing walls, terraces and impluviums of the same types found in the ancient ruins. This is not irrigation proper, but rather a mode of "dry-farming," applied to trees instead of to annual plants.

The ancient methods, with the present amount of rain and without irrigation, are capable of restoring the olive groves. Their disappearance during the nomad invasions requires no such far-fetched explanation as a change of climate. Olive trees, especially in dry regions, require expert care. They must be grafted, watered, weeded, and protected from animals, among which the worst is the camel, a huge beast capable of reaching even the upper branches with his sharp teeth. There must be a market for the oil, and a financial organization of society able to carry the enterprise during five or six years with no fruit at all, and seven or eight before the returns equal the annual cost of exploitation. In ten or twelve years, the cost of establishing the grove is covered, and the height of productivity is reached in about ten more. A grove will last a century if properly pruned and otherwise methodically cared for, but goes to pieces very quickly otherwise, especially in a camel country. Amusing anachronisms in modern literary works have obscured the important fact that the Carthaginians did not use camels, and that these animals were rarely mentioned by Roman writers on Africa up to the third and fourth centuries A.D., when the peak of economic development was already past.

There was very little, if any, more rain or irrigation water two thousand years ago than now. That water

was scarce and the summers dry in ancient times is attested by the ruins of innumerable impluviums, wells, and cisterns. The olive has to be planted and grafted in southern Tunis, but in the north it grows wild, and the producing varieties can be grafted on these oleander roots. Surveys have indicated that the wild olive predominates in nearly 800,000 acres of forest and brush in Algeria alone, and the belt is wider in Tunis.³ Given the same marketing, transport, and labor conditions as in ancient times, there is no reason to doubt that the olive area is potentially the same; but the economic frontiers of crops can shift within fairly wide limits even if the geographic basis remains constant. That the olive area expanded more rapidly than the grain area after the period of Roman beginnings is no more surprising than in the modern case of French rule. It is a natural product of settled life, public order, an assured basic food supply, and the organization of a financial surplus, and not an evidence of soil exhaustion, as Professor Frank seems to think.⁴

Even proof of a general shift from grain to olives on the same land would not establish soil exhaustion as the cause. That the Romans changed their earlier policy of encouraging grain crops at the expense of olive culture has been repeatedly pointed out.⁵ As a matter of fact, in the wetter areas the olive groves were, and are, generally set out on rocky or uneven surfaces, where grain cultivation would be difficult. In the Djebel-Mansour region of northern Tunis stretch mile upon

3. Map of geographic distribution in Rivière et Lecq, *op. cit.*, p. 382; and see text, *passim*.

4. *Op. cit.*, p. 69.

5. Succinctly discussed, and documented, in V. Demontès, *L'Algérie Economique*, iii, 38, 39. He also mentions the discouragement of vineyards at various times, because of competition with the wine of other places, or with other crops wanted in North Africa. The French have done much the same thing, first in Algeria, later in Tunis and Morocco.

mile of tangled brush and scrub timber. Closely examined, the rocky hillsides, under their apparently primeval covering, have regular rows of wide holes, dug out long centuries ago with hand tools and filled with loose dirt. This was once a forest of olive trees, and grain fields covered what is now a different type of savage waste lower down. To get this land under cultivation again is a question of people who want it, of markets, public order, and financial organization. The reclamation of this particular region has been going on at a rate of some 50,000 acres a year. For most of it, irrigation is neither feasible nor necessary.

Except where the rainfall is extremely meager or unreliable, or irrigation water not only available but cheap to capture and use, it is generally more economical to make some concessions to dry-farming procedure than to irrigate grain lands. Some water can often be diverted, stored, or raised at a cost prohibitive for cereals but within reach for the critical spots in the system of exploitation, such as gardening. Nowadays, this supplementary irrigation is often applied to hay crops—for example, on the high plain south of Setif. The water there must be concentrated by elaborate systems of wells and underground galleries, and raised—frequently as much as forty feet—to the surface; but the depth of the modern wells is the same as that of the ancient ones. Even an uncultivated fallow year stores some moisture in the soil, but dry-farming becomes really effective with the stirring of these idle fields one or more times. Four such plowings were mentioned by ancient writers on North African farming, who recommended keeping the surface fine, clean and loose.⁶ Dry-

6. Varro, *De Re Rustica*, i, 29; Pliny, *Nat. Hist.*, xviii, 20, 49; Columella, i, *Praef.* 24, and ii, 2; Virgil, *Georgics*, i, 43-49. For adequate discussions of ancient dry-farming in North Africa, see F. Lacroix, "Afrique ancienne; produits végétaux, procédés agricoles," *Rev.*

farming in this full sense does away with pasturing the fallow fields and tends to create a shortage of livestock. Cheap hand labor was the ancient solution for this, the modern one being the special encouragement of hay crops and the use of tractors.

Thus the economic history of the huge semi-arid part of North Africa tends to divide itself into two radically different régimes, separated by intermediate periods in which there was a decided swing toward the one or the other. Either pastoral life had the upper hand and vegetal products were chronically scarce, or settled agriculture predominated, with an equally chronic shortage of animals. The first type of exploitation means a fairly dense population and a good deal of immovable property; the second, a sparse population, with considerable movable property per person but little of any kind per square mile.

To assume that irrigated farming ever predominated in North Africa is to display a certain naïveté concerning the basic geography of the country. Augustin Bernard⁷ estimated the number of irrigation enterprises in 1912 as 600, and the surface affected at around 772 square miles or 49,400 acres. It has not greatly changed since. Emile Moatti,⁸ in a report to the Water Congress

Afr., xii (1868), 409 f., and xiv, (1870), 12 f.; Augustin Bernard, "Le dry-farming et ses applications dans l'Afrique du Nord," *Annales de Géog.*, xx, (1911), 411-430; also his Preface to (Fr. Ed.) of J. A. Widtsoe, *Le Dry-Farming — Culture des Terres Sèches*, Paris, 1912, pp. xi-xxxvi; C. Mullet's translation of Ibn-el-Awam, *Le Livre de l'Agriculture* (*Kitab-el-Felahah*), 2 vols., Paris, 1864. Ibn-el-Awam's twelfth-century treatise in Arabic was based on Cassius Denys of Utica (in what is now Tunis), an abbreviator of the Carthaginian work of Mago, called by the Romans "the father of rural economy." The original was translated into both Latin and Greek, but has been preserved only in quotations and summaries. Ibn-el-Awam (Fr. trans., vol. ii, Pt. I, p. 9) minutely describes what is now called dry-farming.

7. Widtsoe, op. cit., p. xii. Morocco is evidently not included.

8. *Utilisation agricole des Eaux — Les Irrigations en Algérie* (Report No. 57 to the Congrès de l'Eau, 20 pp., Algiers, 1928).

at Algiers in January, 1928, set down the present irrigated area in Algeria alone as 130,000 hectares (1158.3 square miles), or barely 3 per cent of the cultivated lands. He was dealing with both the Northern and the Southern Territories. Other engineers are less conservative in their estimates, and a survey of the evidence suggests that M. Moatti's figures are low. The great difficulty is that the volume of water carried by the streams varies incredibly from year to year as well as within a given season, depending upon the amount and distribution of rainfall. Most of the artesian sources rise and fall in a similar way, as a function of the climate, tho some do not. Maurice Wahl⁹ estimated that the flow of the Chelif varied from 1.5 to 1450 cubic meters per second, and the Macta from 2 to 800. According to the official *Tableau des jaugeages*, the minimum flow of the upper Tafna varied from 116 liters per second in 1907 to 75 in 1909.

Of the eleven dams of any considerable size already constructed, seven are storage products and four merely deviate the water from its course and scatter it out during the flood season. There is practically no flowing water during the summer. These eleven enterprises irrigate roughly a quarter of a million acres. When finished, the 1920 group of projects¹ will add

9. *L'Algérie*, 4th ed., 1903, p. 26. The variations listed by Wahl are somewhat greater than those indicated in the report of M. Bollard to the *Congrès de l'Eau* in 1928: *Ressources en Eau — Eaux Superficielles* (Report No. 22), pp. 15-17; but this last is based on fewer years. The first general study was made in 1882. The 900-page *Tableau des jaugeages effectués en Algérie de 1901 à 1910*, with measures of 178 water-courses and 4000 springs, is the basis of all later work. It was published by the *Gouvernement Général* in Algiers in 1913. For enterprises, the basic study is the 1907 report: *Tableau des entreprises d'irrigation fonctionnant en Algérie au 30 Décembre, 1906*. A new commission was appointed in 1910 and reorganized in 1922. At present there are 134 gauging stations in Algeria. No detailed publication of results has appeared since 1913.

1. République Française, *Gouvernement Général de l'Algérie*, *Projet d'un Nouvel Emprunt pour l'Exécution d'un Programme de grands*

nearly a half-million acres. If irrigation water can be found for a million acres all told, it will be about 6½ per cent of the present cultivated surface. Not all of this, however, is in the Northern Territory (the Atlas Region proper), and a great deal of it is of present rather than historical interest because it lies outside any previous frontier of cultivation, including the Roman. Moreover, the surface cultivable by other means than irrigation would not remain stationary during the execution of such a program, and would affect the percentage.

The Tunisian resources in irrigation water are smaller even than the Algerian.² This is true of both streams and artesian sources. There is a good deal of underground water in the Sahel or eastern coastal triangle, some of which cannot be used under present economic conditions because it is so deep that the produce does not pay for pumping. The relative cost of ancient labor and modern power cannot be calculated in the presence of so many other unknown factors. Modern transportation facilities have thrown the market gardeners of this region into competition with distant areas and put many of them out of business. Comparisons of Tunis or Algeria with southern Morocco would be of limited historical interest even if they could be accurately

Travaux Publics, 1920, 4 parts bound together, totalling 382 pp. (Pt. II, pp. 93, 94, and Pt. IV, pp. 13-15, for irrigation and drainage proposals). Also report of M. Ferrand, State Engineer of Public Works, to Congrès de l'Eau, (Report No. 29): Exposé du programme d'aménagement des eaux superficielles en Algérie, Algiers, 1928, 26 pp.; Exposé de la Situation Générale de l'Algérie en 1926, pp. 246 f.; Demontès, *op. cit.*, vol. i, Pt. II, pp. 275-439. Brief summary of the 1920 program in *Les Annales Coloniales* for March 23, 1927.

2. See, for example, pp. 136-144 of the Notice Générale sur la Tunisie (1881-1921), published by the French Protectorate in 1922, Toulouse, and J. Coignet, *L'hydraulique en Tunisie et les grands barrages réservoirs—Résumé des études et projets*, Tunis, 1917. A report by M. Ginestous was read at the Congrès de l'Eau in January, 1928, but is unobtainable in print at this writing.

made, as the last-named region does not seem to have been settled until the Middle Ages. Rome exploited only the Tangier-Fez-Rabat triangle in the northwest. The entire flow of the streams of southern Morocco was already utilized by the natives when the French came, but there is room for some storage projects. Chronic disorder rendered the full development of irrigation in the north impossible until recently. Six big dam and canal projects are either begun or definitely planned, capable, when finished, of watering over a half-million acres.³ The coastal region of southern Morocco gets a curiously heavy dew, has a low rate of evaporation, and is therefore much more valuable for agriculture than the amounts of rainfall and flowing water indicate. Morocco being more favored in the matter of rains than the rest of North Africa, probably it may be concluded with safety in a rough but extremely conservative general estimate that it is physically impossible ever to irrigate a tenth of the cultivable surface of the Atlas Region.

Much capital has been wasted on the assumption, still more or less prevalent outside North Africa and undiscouraged by the colonial propagandists, that a large surface could be irrigated with artesian water if all the resources were tapped. Some such water comes to the surface without pumping in the Hodna Basin and in the Mitidja Plain back of Algiers. In this last area the rainfall is ample for most crops, but extra water is welcome for commercial gardening and various plants requiring unusual amounts. Cotton is raised in

3. P. Trossu, *L'Hydraulique agricole et le Génie rural au Maroc*, Report No. 42 to Congrès de l'Eau, pp 9-12; Note sur l'Hydraulique au Maroc, Report No. 44 to same Congrès by Direction générale des Travaux publics du Maroc, dated Rabat, 15 July, 1927. M. Chabert (chef du service de l'Hydraulique et des améliorations agricoles), *L'Hydraulique au Maroc*, Rabat, 1922. This is the reprint of a lecture to future officials finishing their training, and is a clear summary.

North Africa almost exclusively by irrigation, though the best region, around Orleansville, gets enough rain for many other products.⁴

IV. SOIL EXHAUSTION

Modern engineering and transport facilities, plus the added incentive of electric power, make economically feasible a fuller utilization of irrigation water than in any previous period. The big storage enterprises which this favors have their disadvantages. They tend to collect the silt behind the dams instead of scattering it over the land. Furthermore, they take their water at the times when it carries the maximum of salt, always dangerous in North Africa. Small works of the Roman type render fertilization unnecessary in many places because of the amount of silt deposited, and expose the land to the minimum damage from noxious chemicals. Some of the African streams are so heavily charged with chlorides and carbonates that they cannot be used at all for irrigation.

It is not a fact that the Romans exhausted much of the soil of Africa. The rainy northern belt which had been cropped the longest and the heaviest, continued to export cereals during the Middle Ages and in modern times. In general, the southern soils, which were dry-farmed, are rich and deep. They were the last put under exploitation, the lightest cropped because of the water scarcity, and the first to go out of cultivation. To attribute this last fact to soil exhaustion is absurd,

4. M. Brives, *Les Eaux souterraines en Algérie*, Report. No. 18 to the Congrès de l'Eau, especially p. 14. It takes a good geologist to calculate where a well is likely to succeed. J. Savornin, *Les Eaux souterraines dans les Territoires du Sud*, Report No. 15; *Essai sur l'hydrologie du Hodna*, Bull. du Serv. Géol. de l'Algérie, 3e ser., No. 1, 1908. Moatti, cited above, gives some interesting figures on the amounts of water per hectare required by various crops.

especially as the fertility is still there. As M. Rivière tersely puts it: "Even in its best days, the productive capacity of the soil was not superior to that of present times, as demonstrated by the few serious foundations on which a discussion can rest."⁵ North Africa was the "granary of Rome" by virtue of the "extent of cultivation and not of the yield." If the Romans failed to farm as well as they knew and had practised for centuries, we must look, for the reasons, to the basic social and political structure which had imposed itself upon this resistant environment, not to a few surface manifestations when the pressure was relaxed.

Mankind has a weakness for dramatizing history, and is inclined to be gullible concerning the evidence of economic upsets in the remote past. Colonial propaganda is not a modern invention. North African grain yields did not decline from 150:1 in Pliny's time to 10:1 in Saint Augustine's. It is not the fancied decline, but the fanciful reports, which call for explanation. The huge returns on durum wheat (*triticum*) mentioned by Strabo, Varro and Pliny were freaks, and never generally possible, at any time, anywhere. Allowing a moderate seeding of $1\frac{1}{2}$ bushels per acre, 150:1 returns would mean a yield of $187\frac{1}{2}$ bushels. The American average is around 14 bushels per acre, or less than one thirteenth of the above amount, with fairly new lands, better seed than the ancient *triticum* specified by Pliny, and methods of cultivation superior to those he described in some detail. It is a temptation to discuss some of the long list of freaks reported and compare them with contemporary ones, but this should be unnecessary. M. Rivière has done it fairly

5. *Op. cit.*, pp. 302, 303. E. F. Gautier, *Les Siècles Obscurs du Maghreb*, Paris, 1927, p. 14, remarks that the Roman grain tax was a mere trifle ("bien peu de chose") considering the area on which it was levied. See also Demontès, *op. cit.*, iii, 34 f.

well in the introductory historical chapter of the *Traité Pratique d'Agriculture pour le Nord de l'Afrique*.

Evidence of local damage from erosion is not wanting. Even without Ibn-Khaldoun and others to relate it in some detail, any half-trained observer could see that deforestation has occurred. Theoretically, this would make the flow of the streams more erratic, and probably even reduce the condensation of moisture. Traces of salt seepage, the result of careless irrigation, appear in places—for example, in parts of the Hodna Basin. Areas once covered with olive groves or grain fields are now abandoned to brush, but this does not prove that they are inherently sterile. Modern transport has hit olive culture by the cheap carriage of such substitutes as peanut oils, cottonseed oil and lard from regions with which Roman Africa never had to compete. Before these same conditions appeared, grains were produced for nearby markets on land which could not be economically so used now. Moreover, the same amounts of cereals can be grown by fewer hands with modern tools. If the population is less than in ancient times, the labor system is different, as well as the implements and the markets. Agricultural history can never safely be separated from the intricate technique of production and marketing, or these entirely from imponderable social factors. Explanations such as climatic change and soil exhaustion are tempting, but they are too simple.

V. POPULATION AND ITS ECONOMIC BASIS

That population and wants tend to be indefinitely extensible is a commonplace in economics, too vague as usually stated, but with a strong element of truth in it. In regional human geography, the pressure of the two geometric (tho not at all irresistible) factors

is usually seen to adjust itself, in the course of time, to the resources which the current economic technique can utilize. This means a fairly constant population and conventionalized standards of living, as long as the regional boundaries and methods of production hold. We are dealing here with the Atlas Region only, and cannot go into the intricate mechanism whereby two potentially infinite factors, held in check by the extensive and intensive limitations of an environment, manage to adjust themselves to it and each other.

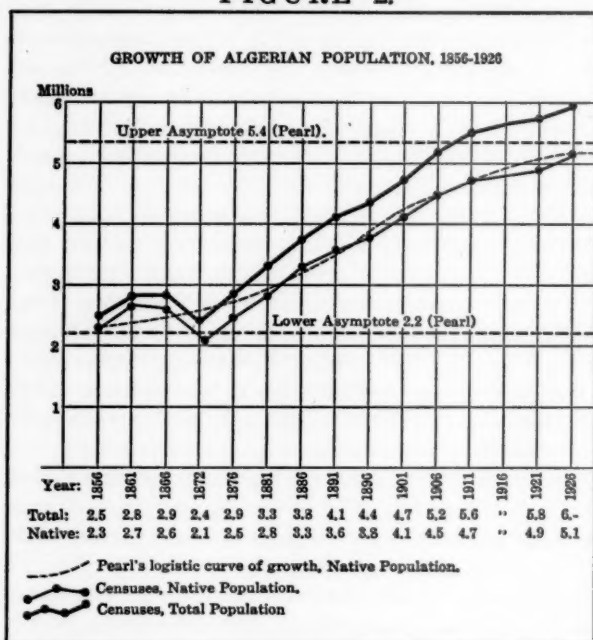
Considerable changes in the economic basis of population, making a larger (or smaller) number of people possible, upset the existing adjustment. An area that has been devoted to settled agriculture and shifts to pastoral life must reduce its numbers, and one shifting in the opposite direction will increase them. In the present case it is the same region, but at different times. The rise will be slow at first, as it takes years to mature human individuals. If the region is fairly isolated and there is a single outstanding reason, or group of related reasons, for the rise from one numerical level to another, the growth can be represented by a simple but suggestive curve. In Figure 2, the Algerian censuses since 1856 are strung out along the base line from left to right, the spaces indicating five years of elapsed time. Each space from bottom to top represents a million people. The upper solid line joins the points that indicate total population in the successive censuses, and the lower one does the same thing for native population taken separately. Professor Raymond Pearl⁶ has smoothed the growth line of native

6. *The Biology of Population Growth*, 1925, chaps. 2 ff., on the Algerian population. He derives two different growth curves from as many equations, of which the dotted line reproduced here most nearly fits the later census of 1926. He points out that these growth curves have the

population by the use of equations the mathematics of which need not concern us here.

The shift from an old adjusted level, maximum or "ceiling" (to use the suggestive aviation term), is at

FIGURE 2.



first slow, then much faster (or steeper if we are looking at the curve). It flattens out again as the new maximum level or ceiling is neared. Populations, it may be trite to remark, tend to cling to their ceilings, or to press upon their effective resources, as the same general form as those of populations of fruit-flies and other simpler organisms multiplied in the laboratory, and also as the regenerative process, measured by successive weighings.

Malthusians would have it. Raise this potential level rather sharply by new resources or methods of utilization, and the population tends to follow the very general curve of vital growth. Pearl's "Lower Asymptote" of 2,200,000 native Algerians represents an attempt, aided by biological and mathematical knowledge, at a scientific guess on the old level. His "Upper Asymptote" of 5,400,000 native Algerians is a similar estimate of the level which may be expected, if no new factors appear, when the disturbance begun by the French conquest reaches an equilibrium.

All sorts of detailed criticisms could be leveled at Pearl's work. The organized area in which actual counts could be made has changed enormously and repeatedly since 1856, or even 1881. To an economic historian, or to a student of Algerian history, it seems that Professor Pearl has attached almost absurd weights to war losses, especially in the Kabylia insurrection of 1871, and to have completely ignored the one factor that has most impressed French scholars—the famines caused by droughts. The worst on record was prepared by unusually dry years preceding and including 1864 and beginning in earnest with the drought and locust invasion of 1866. Two more dry years followed without a break, the second accompanied by severe earthquakes. Winter floods and epidemics made the situation worse. As indicated in the graph given above, the census of 1872 showed the smallest population of any count since the beginning of the French occupation. It was years before the millions of livestock which had perished could be replaced.⁷ The Europeans suffered less than the natives,

7. Demontès, *op. cit.*, iii 165-179; L. Petitjean, *La Prévision des Précipitations atmosphériques en Algérie*, Algiers, 1928 (Report No. 8 to the Congrès de l'Eau), especially graph (pp. 4, 5) of annual rainfall at Algiers from 1838 to 1926. M. Petitjean's calculations indicate

but the collapse of cotton prices following the close of the American Civil War added to their troubles.

Any intricate plotting of growth tendencies in the native population alone is open to question, on the economic ground that this element was in direct competition with the European settlers for the same resources. The now generally recognized fact is that France had no consistent economic policy in Algeria up to the Franco-Prussian War. Curiously enough, it has been the Third Republic, and not the Second Empire preceding it, which has followed an aggressive colonial program. Up to 1872, European colonists had generally failed in attempts to impose their own agricultural notions upon North Africa, and had fallen back largely upon native crops, methods and help. A cotton area, which declined rapidly from its 14,000 acre peak in the American Civil War period, and a surface in vineyards already amounting to 25,000 acres in 1872, constituted the main exceptions. Gradually, also, the colonists increased their emphasis upon the soft bread wheats in demand for export to France, leaving the durumms and barley more and more to the natives. Spanish immigrants reintroduced the ancient dry-farming procedure into western Algeria shortly after 1880, and the modern American methods began to attract attention later. During this same period, the ravages of phylloxera in the vineyards of France gave a tremendous impetus to the Algerian wine industry, one of the pre-

15- and 35-year climatic cycles underlying the more violent shorter fluctuations. It is interesting to note that the low parts of his smoothed rainfall curve include the Algerian censuses when the actual counts fell sharply below the numbers indicated by Pearl's smoothed curve of population tendency. The census of 1872 showed still a net drop of 4,000,000 animals, in spite of the fairly good years 1869-71 inclusive. The disastrous grain years were 1866 and 1867, with 8,200,000 and 4,800,000 quintals of cereals respectively, as against about 11,500,000 before and after. The much higher estimates appeared at the time, the present tendency is to put the loss of human life at about 300,000.

vious handicaps of which had been a mercantilistic tendency to discourage it for fear of competition with the home product. Eventually, the improvement of transport facilities, within Algeria and also between her ports and the French market, gave market gardening a chance to develop, the most important products being artichokes, green beans, and tomatoes. So far, Tunis and Morocco have hardly shared this export trade at all. Fresh fruits belong to this general class of produce. Railways to the south have revolutionized the date industry in both Algeria and Tunis, making possible the specialization in varieties that require swift and careful transport but are especially prized by European purchasers.

From the standpoint of the economic basis of population at least, it is fair to characterize the first half-century of French domination as a period of fumbling.⁸ It is quite possible that the low figures of the 1856 census were due to incomplete counting, and that the old level which the country had been supporting was around 2½ millions, tho good French geographers like Bernard put it much lower. Professor E. F. Gautier⁹ is right in calling the beginnings "absurdly bloody," and there is more than dry humor in his characterization of France as "a bull in a china shop." The number of deaths from skirmishes and from such military

8. Maupassant's *Au Soleil* is a meticulous descriptive and critical account of an arduous trip about Algeria a half-century ago. His chapter on the revolt of Bou-Amama is a startling picture of the insecurity of the back country in the early 1880's. The oasis of Bou-Saada was reached by caravan, after days of hard and none too safe going. It is now a tourist place, full of fakes, a few hours from Algiers by motor, and is not considered as in the Sahara proper at all. Check up with Girault, *op. cit.*, iv, 51 f.

9. *L'Algérie et la Métropole*, chap. 2. Chap. 1 also gives some well-authenticated examples of the wanton destruction of human life during the war against Abd-el-Kader. Girault (*op. cit.*, chap. 3) gives a good discussion of the population problem, with tables and ample references.

measures as the displacement of whole tribes toward the dry south was large, but can never be known even approximately. Tho there is no way to disprove that it was equal to the hundreds of thousands who perished during the famine of the 1860's, a thorough scepticism on that point is permissible. Pearl¹ cites Boudin's figures on French losses from 1831 to 1851, totaling 95,730. Of these, only 3400 were killed in battle. The mortality from disease must have been tremendously higher among the unacclimated French than among the acclimated natives. Many of the "French" troops were recruited locally, however, and the Algerian civil population was exposed as the Europeans were not. It should be remembered that for the purpose of getting at the previous numerical level it is permissible to consider only the native losses in excess of the usual number, in a country where famines, epidemics and internecine struggles were more or less chronic.

The economic penetration of which we see the effects today is mainly the work of the past fifty years. Europeans seized or purchased a good deal of the best land, and gradually learned to exploit it in their own way, with different methods, and largely different crops, from those of the natives. This economic schism has been incomplete, in part because natives have copied — and have been encouraged to copy — the obviously practical innovations within reach of their capital resources. Conservatism and want of capital have prevented or retarded the adoption of much that would have been profitable. On the other hand, many unmistakable examples suggest that French officialdom has more or less chronically advocated changes that would have been untimely, if not inadvisable, regardless

1. *Op. cit.*, p. 52; J. Ch.-M. Boudin. *Histoire Statistique de la Colonisation et de la Population en Algérie* (Paris, 1853), p. 23.

of the mere problem of transition from old to new. For example, Rivière et Lecq² urge caution in advising natives to adopt fallow cultivation, which would cut down the pasturable area, and on their poorer holdings "could not yield the same results as in our deep and strong lands in the plains, occupied almost exclusively by the colonists." According to these authorities, much of the soil held by natives is so shallow and so lacking in reserve humus that there is danger of temporary sterilization by deep plowing.

Not only is the irrigated surface sharply limited by the water supply, but the increase of yields by the use of the cultivated fallow is seen to be practicable only up to a certain point, beyond which it is checked more and more firmly by the effects upon the livestock situation. Modern facts as well as ancient descriptions show an understanding of intricate dry-farming procedure, coupled nevertheless with the wide use of the uncultivated alternate fallow system. It is not surprising that the total number of livestock per unit of surface should decrease with the growth of the cultivated area. The same thing happens per number of inhabitants. We should expect both with the shift from animal toward vegetal sources of livelihood. Since the sheep and goats are raised largely outside the agricultural area, they should not be included in such a comparison of different periods. If cattle were used for food only, and not for draught animals, the drop from 35.7 to 20.5 per hundred inhabitants and from 57 to 32 per hundred hectares cultivated, between 1860 and 1910, would not be very significant.³ But there is no clouding the fact

2. *Op. cit.*, p. 105. See also a very fine little study by Professor G. Trouette, *L'Elevage Algérien* (Bull. No. 16 of the Ecole d'Agriculture Algérienne), Algiers, 1914.

3. Figures from Trouette, *op. cit.*, p. 5. He lists horses, mules, cattle, sheep, and goats, separately and together.

that a similar falling off in horses and mules relative to population and tilled area represents a cumulative check to the means of increasing the agricultural basis for supporting human numbers. The cultivated area nearly doubled between the two dates mentioned, and we have already noted that the population did likewise. Since 1910, the rates of increase have flattened out so radically in both cases as irresistibly to suggest the approach to rather stable levels at a date not far in the future. In other words, the talk of another doubling of the population of Algeria is not based on resources and modes of exploitation now in evidence.

Tunis has a little over a third as many people as Algeria, and about a fourth as much land, with 300 millimeters or more of average rainfall per year. The two populations showed nearly the same percentage of increase between 1921 and 1926. Both are evidently becoming stabilized around higher levels than those of a century ago. No Moroccan census so far taken represents a very close count. It would be useless to guess at the probable growth of population, pressing upon economic resources which have not been measured, with radically different and mixed or transitory types of organization.

The material culture of the Atlas Region is approaching one of its historic high points. Nearly all of the best agricultural lands are exploited, together with a very large fraction of the mediocre but cultivable area. A population of between $12\frac{1}{2}$ and 13 millions already shows a decided slackening in its rate of increase in two of the three great divisions. The introduction of European administrative and economic organization has at least doubled the population and cultivated area of these two, and increased their wealth to an incalculable degree. Morocco is still far from the level of develop-

ment of the other two, conceived in the above measurable terms, but is not to be compared with the Algeria of 1830. On the basis of factors now at work, it would require considerable optimism to predict an increase of 50 per cent in the present population of the Atlas Region proper. Whether the number of people implied has ever lived there is a highly debatable question.

VI. THE ECONOMICS OF EMPIRE

North Africa is dotted with remains of silos, underground granaries and cisterns which are older than the Roman, Carthaginian or Phoenician invasions. Some grain has been raised, and stored in defensible places, for a period so long that no records go back of it. Successive empires have expanded the cropped area, increased the means of defense, pushed back the nomadism which is the perpetual enemy of ordered prosperity, and opposed an organized surplus to the irreducible vagaries of the climate. Not all of these vagaries are irreducible from the economic point of view. Under a highly organized administration, and the network of private enterprise which it fosters as well as protects, there are two problems which can be handled simultaneously.

First, the difference between the yields of good and bad years can be greatly reduced. The chief ways of doing this are by preventing the wastage of water through the use of dry-farming and irrigation works, and by favoring drought-resisting crops, such as olives, in the marginal regions. M. Berthault⁴ recently summarized the evidence for different historical periods, and decided

4. In a report to the French Academy of Agriculture, cited by Professor Ladreit de Lacharrière, *La Production des Colonies* (Cahiers de Redressement Français, No. 31), 1927, pp. 32, 33. Gsell, Bourde and others have taken the same view, on similar evidence.

that the problem of varying yields is at least as well under control now as at any time in the past, including the Roman period. The "lean" years now produce roughly half as much as the "fat" ones, instead of the former ratio of about 1 to $5\frac{1}{2}$.

Second, once the falling off in the worst years has been controlled to this extent, there are three general types of expedients whereby an effective administration can handle the periodic deficits. (1) Local storage of the surplus from good years can be adequately organized. Public order is an indispensable condition. In the modern world, a financial surplus can take the place of the actual produce, which, thanks to the newer transport facilities, can be imported when the crisis comes. Crop insurance and mutual aid societies, fostered by the French in all three of the North African countries, reduce the government's part mainly to supervision, the economic resources themselves being furnished by the insured. (2) By knitting together a huge area, an exceptionally severe crisis in one locality can be met by the resources of others more favored at that particular time. (3) Finally, if the deficit is general, it is possible to import from territories entirely outside North Africa.

What such organization does is to enable the Atlas Region to support a level of population and wealth warranted by the average yield over a period of years, instead of being limited by the produce of the poorest. The long-time effects are even more important. This average yield gradually increases as lands are reclaimed for settled agriculture, and wealth in the form of private and public improvements accumulates. If a serious derangement or relaxation of effectiveness in the general mechanism of control occurs, population and wealth decline to the levels which the poorer

years can support. The disastrous period following 1866 was not of this sort. It did much damage, but the political and economic machine was still intact, including its morale, and the recovery was swift. All things considered, the years beginning with 1920, coming as they did on the heels of the World War, were probably about as unfavorable as those mentioned above. Yet the population actually increased from 1911 to 1921, and again from 1921 to 1926, tho already nearly twice as dense as in 1866. Algeria was better organized in 1866 than in 1830, but at neither time did the social and economic structure compare with that of our decade, which has acquired the reserves and experience to ward off misfortunes as well as to recover from them. The Romans of an earlier age somehow lost the disciplined force and industry with which they had conquered this resistant environment, step by step. In the course of centuries, it slipped back to about the state in which they had found it.

Those who object to imperial tutelage in any form may ask why Africa Minor is not left to build up a civilization of her own. The only answer that can be given to an academic question of this kind is that so far history has recorded only failures. Left to herself, North Africa has drifted toward nomadism, periodic famines, a sparse population with little fixed property or security, and a loose tribal form of organization which excludes the possibility of an effective administration or a high level of culture. For a brief period in the tenth and eleventh centuries, the sedentary Ketama and Sanhadji tribes, under the leadership of a few Arab Fatimides, got the nomads under control. The Fatimides proceeded to conquer Egypt with the power thus assembled, leaving the Atlas Region to crumble into fragments again when the nomads were reinforced by

the Hilalian Arabs from outside. This new invasion of the eleventh century was the only numerically serious one. The successes of the earlier conquerors testify less to their own strength than to the inherent weakness and disunity of the country.

Professor Gautier ⁵ thinks that even these invading Hilal and Soleim tribesmen could hardly have numbered more than 200,000, or less than 2 per cent of a native North African population which he estimates as fully equal to the present one. If this is true,—and there is every reason to believe it,—most of those who now speak Arabic and regard themselves as authentic Arabs are merely Arabized Berbers. In North Africa, "Arab" has nothing to do with actual blood among nomads who are mainly illiterate, and who cannot have any serious history, from the nature of their mode of life. It does not say much for the solidity of the one imposing native empire that a handful of invaders not only upset it, but obliterated the very identity of a large fraction of its people.

As a generalization, the statement that "history repeats itself" is a childish absurdity. Events in a constant and highly peculiar geographic setting like North Africa may follow something like the same rude patterns, but even here, if closely viewed, one age differs vastly from another. It is hardly conceivable that the olive should ever recover its ancient importance, or that otherwise Tunis should be as populous again as it once was. The ancients had poorer, weaker, and more primitive agricultural implements than we. With our machinery, including our transport facilities, they would have favored different lands, and the competition of produce in the market would have affected the value of those they did cultivate. This machinery of ours has

5. *Les Siècles Obscurs du Maghreb* (Paris, 1927), pp. 401 ff.

also changed the whole basis of labor costs and organization. Railways open up areas which Rome could never have farmed — open them up, let us add, to imports as well as exports. The desertion of frontier localities like Timgad, which were fairly populous in Roman times, is evidently due in part to the above fact. In our time there is no elaborate frontier organization, with chains of fortified posts, garrisons, concentrations for trade with the tribesmen outside, and the agricultural development for supplying such a system. If the system existed today, it would be supplied very largely with imports, which was not feasible with ancient transport facilities.

The physical geography on which the Romans based that fortified line is as clear as ever, but it does not have the same economic and political significance in our world. Anyone at all familiar with the military history of the French penetration knows that this frontier was untenable after the general introduction of the camel. As Gsell and Gautier have pointed out, this animal was practically unknown in the Atlas Region until the third century A.D.⁶ During Roman times, the advancing price of ivory caused the herds of elephants previously drawn upon by the Carthaginians for war purposes to be hunted out of the practically uninhabited brush of the back country. The vast numbers of ferocious beasts captured for the Roman arenas are further evidence of the wilderness into which the agricultural frontier was gradually pushed. Today there are no elephants, the Numidian lion is a figure of speech, and North Africa is almost entirely devoid of dangerous wild animals. The camel opened up the desert to such population as it would support, changed the basis of

6. E. F. Gautier, *Le Sahara* (Paris, 1923), pp. 96-106; *Les Siècles Obscurs du Maghreb* (Paris, 1927), pp. 165-189.

nomadism, and led to the establishment of trails right across the Sahara to central Africa. If she was to be safe anywhere, France could not stop at the old Roman military frontier, which had become meaningless. Abdel-Kader's real strength, which enabled him to hold out so long, was based on territories farther south. The French reached the oases of Laghouat, Ouargla, and Touggourt in 1852, 1853, and 1854 respectively. Safety in the southwest was never achieved until the railway had sapped the military importance of the camel.

But the Roman frontier was more than a military one. The present southern boundary of a population density of ten or more per square kilometer (about twenty-five per square mile) follows it with remarkable fidelity.⁷ To the east of Biskra, this line runs almost east and west. The deep pocket west of Biskra (the dry and salty eastern part of the Hodna Basin) is crossed by the southern boundary of the Northern Territory, just as it was by the Roman frontier. Both of these, and also the line of population density mentioned above, swing northward west of the Hodna Shott (salt lake), and follow a north-westerly course. The modern political boundary corresponds with the other two only in the Department of Constantine; but the population line continues roughly to follow the old Roman frontier to Boghari, south and a little west of Algiers. From Boghari west to Teniet-el-Haad and southwest to Tiaret and Frenda, modern dry-farming has pushed the sedentary population well beyond the Roman *limes* into the Sersou plateau country. The Roman frontier ran almost west from Frenda through Tlemcen (Pomaria) to strike the Mediterranean

7. See map of density of total population of Algeria in the back of vol. ii of Demonhès, *op. cit.*, and the sketch of the Roman and Byzantine *limes* in Gautier, *op. cit.*, p. 186. For details, Gsell's *Atlas Archéologique* for Algeria, and that of Babelon, Gagnat and Reinach for Tunis, should be consulted.

shore near modern Melilla in Morocco. As already noted, modern settled agriculture has broken far out of the ancient bounds in western Algeria and in Morocco.

After a number of observations at first hand of what is called "economic imperialism," it seems to the writer that neglect of the basic human geography peculiar to each separate case has led to gross misconceptions of the economics of the process. An examination of areas that have been chronically dominated from the outside will show that a good many are cases of high "environmental resistance," in the sense that the natural obstacles to orderly, settled human life are unusually great. There may be ample returns later for a large initial outlay. It may be feasible to make such a region self-sustaining in the financial sense, or even politically independent, following outside aid in overcoming certain difficulties once for all. For example, Santo Domingo and Haiti were unable by themselves to solve the problem of creating transport systems in an island whose mountainous structure raised special difficulties. They resemble North Africa in this respect. Unlike the Atlas Mountain country, the two island republics have rather enervating climates, and Haiti in particular had a public health and sanitation problem which seemed entirely to escape control, with her resources as organized when the Americans arrived. Nicaragua is a case similar to Haiti, with a worse climate and at least equal natural obstacles to the establishment of communications, plus the fact that these last have never been conquered, as they once were by the French in Haiti. The Institut Pasteur and the government services have almost worked miracles in controlling the health problem in North Africa, but the climate is much more favorable than in any of the other three cases.

It is too carelessly assumed by opponents of "impe-

rialism" on political or emotional grounds that no case of tutelage need be more than temporary. In North Africa, the only thing which can be earmarked as a short initial effort is the establishment of public order and honest administration, so that the areas requiring a considerable capital investment can be fully utilized. Even this did not prove so brief. An important initial outlay is likely to be followed by high maintenance cost. Intricate and efficient organization is particularly necessary where the returns on the initial and maintenance costs are only moderate, and especially if they are quite variable. North Africa presents a simpler problem than Indo-China or West Africa because the climate is not inconsistent with the indefinite maintenance of a high degree of individual human energy. It is not necessary to send the technical and administrative personnel on long vacations to the temperate zone or the mountains, and the question of wastage and renewal need never be serious.

Nevertheless, the degree of "independence" of any kind which is feasible in North Africa is problematical. Every other question hinges on that of the climate as it affects economic exploitation. The main direct evil of political dominance by one of the European colonial empires is that the man-power of the subjected area is likely to be used up in other people's quarrels. Nothing would be gained, however, by getting rid of this situation through the establishment of local governments which could not keep order. Under those that have existed so far, life and property have suffered more than under the outside empires. Economic empire is undoubtedly injurious only if it takes more than it creates. A big "favorable" balance of trade with the controlling country is a bad sign, indicating an outward flow of economic resources without any equivalent return; but this does not apply to North Africa. Perhaps the greatest evil of

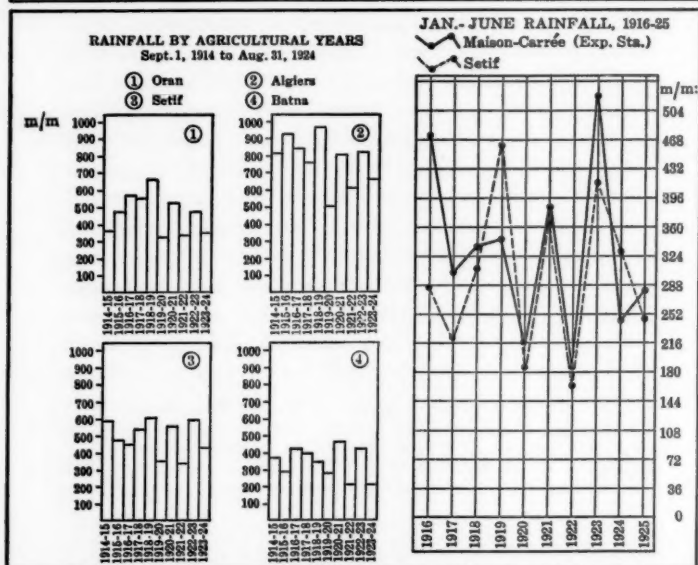
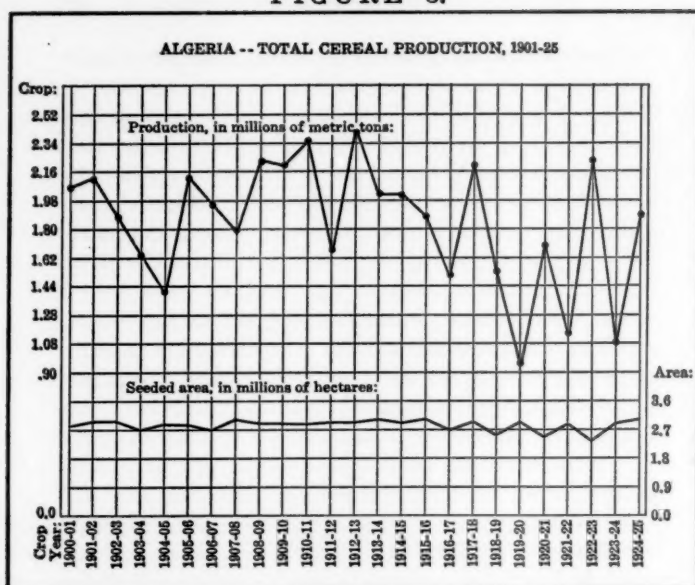
European colonial empires as at present organized is that they tend to set up tariff legislation which injures everybody concerned, the colony most of all, favoring the mother country only in the relative sense that she suffers least. In the present state of academic opinion, it is the undeniable benefits of "economic imperialism" which tend to escape attention. Any practical scheme for reforming or getting rid of the process must achieve these in some other way.

This positive side of the picture demands more than the usual amount of analysis to make it clear. A century of French penetration has more than doubled the population and cultivated area of Algeria. The effects upon Tunis and Morocco are more difficult to trace because they were less direct up to the establishment of the two protectorates, one nearly a half-century ago and the other as recently as 1912. Piracy, with its accompanying Christian slavery and tribute at the expense of the western nations, was abolished in all North Africa as an immediate consequence of the taking of Algiers. For all practical purposes, Tunis as well as Algeria was cut off from Turkey and oriented toward Europe. The French penetration of the Sahara removed one of the major causes of disorder in the whole Atlas Region. Purely predatory operations by back-country tribesmen were of less economic significance than the perpetual danger that a dry year would start a cumulative general movement toward the wetter coastal regions, doing damage that could not be repaired until the next drought started it all over again.

Figure 3 shows the fluctuations of cereal production during the first quarter of the twentieth century.⁸ They

8. *Statistique Agricole de l'Algérie, Campagnes Agricoles 1901-1923* (Algiers, 1925), pp. 2, 3. Completed from the two volumes of the annual *Statistique Générale* for 1924 and 1925. The cereals are wheat (including durum), rye, barley, oats, corn (maize), sorgo and millet. The data on other crops and animals are from the same sources.

FIGURE 3.



are still considerable; but they are no longer accompanied by the tremendous migrations and destruction of life and property of earlier times. Note the relatively slight variation of the seeded area, as compared with yields. This stabilization is largely an effect of orderly administration and the introduction of better implements and draught stock. The ancient literature is as clear as the modern native proverbs on the disastrous effects of light or very late fall rains, on the grounds that such conditions cut down the area that it is possible to plow, and also give the new crop a poor start. As the graph shows, however, there is no apparent association today between a low total yield and a small seeded area. In fact, the opposite was the case in more than half of the first twenty-five years of the present century. This inverse relation is presumably due merely to the smallness of the number of crops taken as a sample. Only the extraordinarily dry autumns seriously reduce the acreage nowadays. This factor can be discounted entirely for European colonists and for the natives who have adopted any type of steel plow.

Comparing the lower left-hand insert in Figure 3 with the curve of cereal production at the top, the correlation between mean rainfall by agricultural years⁹ and total yield is obvious — much more so if we consider the climate of Setif or Batna, inland, which differs from that of any Mediterranean port like Algiers or Oran. The lower right-hand insert disregards fall rains entirely. Comparing the curve of January–June rainfall — roughly the last six months of the crop year — with

9. These four graphs for crop years from 1913–14 to 1923–24 are selected from a large number in A. Lasserre, *Aperçu de la pluviométrie en Algérie*, pp. 24, 25, Algiers, 1928 (Report No. 50 to Congrès de l'Eau). The graphs of rainfall at Setif and Maison Carrée at the right are plotted from the tables in the *statistique Agricole*, 1901–23, and the *Statistique Générale* for 1924 and 1925, previously cited.

the production curve for the same years just above, we find that they tally very closely. Professor Bernard¹ has suggested in a chapter on Morocco that it is the spring rains which are decisive. Extensive checking of figures on Algeria has convinced the writer not only that this is true there, but that the correlation between fall rains and yields is actually negligible except in rare seasons. The tremendous crop of 1918 was due in part to a special wartime effort, but the distribution of rainfall during the six months before harvest was also exceptionally perfect. Less than the average fell in the winter, when there is nearly always more than enough, and more than the average during the spring months, when the precipitation is generally somewhat short of the ideal amount for maturing crops. In 1919 the opposite was the case, a fairly high total rainfall being badly distributed through the crop year. Bad droughts, such as produced famines in earlier times, occurred in 1920 and 1922; and 1924 was a mediocre season, especially as to distribution of the rains.

The effects of Europeanization of methods in parrying the force of dry years are very apparent in the statistics. In the good year 1918, Europeans got 169,922 metric quintals from 17,290 hectares of wheat (*blé tendre* — our bread wheat) sown in the Department of Constantine, or 9.8 quintals per hectare. Natives harvested 78,140 quintals from 12,319 hectares, or 6.35 quintals per hectare. In 1920, a very dry year, the Europeans got 4.8 quintals per hectare, the natives only 1.63. Roughly, natives got two thirds as high yields as Europeans in 1918, and only one third as high in 1920. This type of wheat is grown mainly by colonists. In the old days, only durum was grown, the soft wheats being too uncertain under the native procedure, which

1. *Le Régime des pluies au Maroc*, chap. 8.

was even more primitive then than now. If we make a similar comparison to the above, using durum (blé dur) instead of bread wheat (blé tendre), the result is much the same. In 1918, in the same Department, Europeans harvested 1,082,869 quintals from 134,513 hectares or 8.05 quintals per hectare, the natives 2,517,392 quintals from 424,411 hectares, or 5.9 quintals per hectare. Europeans averaged 5 quintals per hectare in 1920 in spite of the drought, and natives only 2.8 quintals. That is, the native average in the wet year 1918 was about three fourths of the European, but barely over half in the dry year 1920. Perhaps a more suggestive comparison is seen in the fact that in 1920 the colonists got five eighths of a crop of durum, the natives only a half; and that the Europeans got a half-crop of bread wheat, which is less resistant to drought, and the natives only about a fourth.²

Europeanization has brought about a scattering of effort over more crops, with less danger of a total failure. The introduction of commercial crops has been even more important, as it makes possible a financial surplus against the lean years. Without public order and competent administration, the capital would not be available for doing this. Administration has become increasingly effective with the growth of agriculture; the two have developed together. Perhaps the most striking thing — and certainly one of the most important — about the present phase of North African history is the failure of the most unfavorable periods to produce any signs of collapse. The trying years after 1919 hit the livestock situation at a time when it was already bad because of the war. The number of horses in Algeria declined from 216,045 in 1913 to 157,100 ten years later. At the end of the decade there were 313,000 fewer cattle

2. Figures from *Statistique Agricole, 1901-1923*, pp. 3, 4.

than at the beginning, 3,740,000 fewer sheep (a loss of nearly four ninths), and 1,227,000 fewer goats, or a loss of one third. Post-war unrest and economic dislocation were reinforced by the world financial crisis of 1920 and a terrible drought in North Africa in the same year. Cotton prices collapsed. Mildew reduced wine production during 1921 by over 50,000,000 gallons. The cereal yield rose from less than a million metric tons in 1920 to 1,720,000 in 1921, but this was still below the average of the preceding decade, and the total for again fell to 1,090,000. This was the poorest crop 1922 since 1900, with the exception of 1920, and 1924 was worse than 1922. Yet the economic situation remained solid. Population actually increased, and the country was able to take full advantage of the favorable years 1923 and 1925. Some progress was even made on the big 1920 program of new irrigation works, in spite of financial embarrassment.

Morocco and Tunis were likewise hit by the cycle of dry years.³ Abd-el-Krim's 1925 war was a political one in its general antecedents, and had nothing to do with crop conditions, which were good that year. The mountainous Riff country needs more cereals than it produces. These were, and are, generally secured in the area south of the higher mountains, which also supplies Fez. The advance of the French line of outposts into this region may perhaps be considered the economic occasion of the war. Outside of the narrow zone of military operations, Morocco was tranquil and safe, and the French advance against the unsubdued tribes in the south was halted only momentarily. The fluctuations in Tunisian harvests between 1916 and 1925 were almost exactly parallel to those in Algeria.

3. Bernard, *op. cit.*, chap. 8, pp. 52 f. There is a graph of wheat production in Tunis from 1917 to 1926 inclusive, in *Les Annales Coloniales*, June 15, 1927, p. 2, and one of the seeded areas on p. 5.

In spite of natural conditions as bad as those following 1865, North Africa actually made a measurable amount of economic progress during the period of lean years beginning with 1920. Every favorable season has been reflected by a rebound. The worst conditions have been met without serious loss of life or impairment of economic recuperative power. It is easier, as well as more fashionable, to criticize the rapaciousness of governments and corporations in dealing with backward peoples than it is to study the special economic and administrative difficulties inherent in the environments, in an attempt to appraise the constructive effects of empire. Once we outgrow the delusion that "economic imperialism" is a simple or uniform process, susceptible of dramatization by the use of a few stage monsters stuffed with imaginary virtues and vices as if they were persons, we perceive that very little is known about the subject. If the aim is really to find out something of practical value in dealing with a hard set of problems, it will be necessary to pay more than the usual amount of attention to the economics of administration and the intimate details of productive technique, which will always be found to be related to each other and the economic geography of the particular case. France has done a great deal of constructive work, as well as made mistakes, in North Africa. It is not the business of a student to ladle out praise or blame, but merely to find out, if he can, which facts are significant, and insist that they are not slighted by serious people.

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THE PROVISION FOR AGRICULTURAL CREDIT IN THE UNITED STATES

SUMMARY

Provisions for Agricultural Credit prior to 1913. — I. Federal rural-credit legislation since 1913, 95. — State rural-credit legislation since 1913, 103. — II. Effect of the new institutions. — Mortgage credit, 108. — Short-term credit, 111. — Terms of loans and interest rates, 115. — III. Adequacy of mortgage credit facilities, 117. — Provisions for "low-grade" loans, 120. — Appraisal methods, 122. — Mortgage credit facilities in the South, 123. — IV. Short-term credit facilities are inadequate, 124. — Bank failures, 124. — Suggestions for improvement of the country banking situation, 127. — V. Intermediate credit. Production credit in the South, 129. — VI. Conclusion, 130.

SINCE 1913, we have had a long series of federal acts on agricultural credit, culminating in the Act of 1923. Three entirely new institutions have been set up, two of them especially for agricultural credit — the Federal Farm Loan System in 1916 and the Intermediate Credit System in 1923. Since 1920 we have had a serious agricultural depression to test these new provisions. It is the purpose of this article to take stock of the new facilities and our experience with them, and judge whether they seem likely to be adequate.

It would not do to leave the impression that agriculture had no credit facilities before 1913. Life insurance companies, savings banks, trust companies, and state banks loaned large amounts upon farm-mortgage security. A well-organized traffic in farm mortgages was established between farm-mortgage bankers in the middle west and savings banks and other institutions in the east. Farm mortgages were a favorite investment of thousands of private investors. But the short maturity of loans, difficulty of renewal during periods of

financial stress, high commissions, and lack of any centralized source of funds, all tended to make the old farm-mortgage system disadvantageous to farmers.

National and state banks were the principal sources of farmers' short-term credit. Professor Ivan Wright has shown how the national banking system failed to meet the credit requirements of agriculture because of "legal restrictions, lack of adequate organization and intelligent national coöperation among the banks, scattered reserves, and centering of loanable funds in New York."¹ It was not until capital requirements of national banks were reduced, in 1900, that the national banking system became readily available to agriculture; and even then agriculture was not served as well as commerce and industry. State banks usually had insufficient funds just at the times of greatest need. Some short-term loans were obtained from individuals, and in certain sections credit advanced by merchants constituted a large share of the total.

I

We may begin by reviewing summarily the progress of our rural credit legislation — federal first, and state afterward.

Altho the Federal Reserve Act of 1913 was intended to improve commercial credit conditions particularly, it recognized the special credit requirements of agriculture by permitting the rediscounting of agricultural paper having a maturity of six months (as against ninety days for commercial paper), and by permitting national banks to make loans on farm-mortgage security, not to exceed 50 per cent of the value of the property, for a period not exceeding five years. The law was amended in 1923 to permit the rediscounting of agricultural paper

1. *Bank Credit and Agriculture* (McGraw-Hill, 1922), p. 117.

having a maturity of nine months. It is generally agreed that the Federal Reserve Board has exercised its wide discretionary powers so as to make the facilities of the system as available to agriculture as possible. The following table shows the volume of paper rediscounted for periods of three to six months and six to nine months.

TABLE I
AGRICULTURAL REDISCOUNTS OF THE FEDERAL RESERVE BANKS,
1914-1926*

Year	Bills Rediscounted (000 omitted)	
	91 days to 6 months	Over 6 but within 9 months
1914	644	
1915	19,684	
1916	16,818	
1917	29,131	
1918	156,246	
1919	125,285	
1920	351,887	
1921	373,172	
1922	229,989	
1923	182,314	5,449
1924	122,558	16,603
1925	81,963	11,627
1926	90,025	14,483

* Annual Report, Federal Reserve Board, 1926, p. 94.

Federal Reserve Banks have rediscounted large amounts of agricultural paper maturing in less than three months. They have also handled much commodity paper and other agricultural paper not appearing in the above table. No complete classification has been made of the total volume of agricultural paper handled by the Federal Reserve Banks, but it is much larger than is indicated by the rediscounts of three to nine months paper alone.

The Federal Farm Loan Act, approved July 17, 1916, established two systems of mortgage credit — Federal Land Banks and Joint Stock Land Banks, both super-

vised by the Federal Farm Loan Board. The Federal Land Banks, twelve in number, were to be owned and controlled ultimately by borrowers. Borrowers were to organize local national farm loan associations, in which each borrower would purchase stock to the amount of 5 per cent of the face value of his loan. The association would, in turn, take a like amount of stock in the district Federal Land Bank. Later amendments have placed virtual control of the system in the hands of the Federal Farm Loan Board, altho borrowers now own almost all stock. Funds for loaning are secured by the sale of tax-exempt bonds based upon first mortgage collateral. Loans are amortized over a period not exceeding forty years and bear interest not in excess of 6 per cent. An original limit of \$10,000 on individual loans was increased to \$25,000 by amendment in 1923. Loans may be made only to farmer-owners on first mortgage security, and may not exceed 50 per cent of the land value plus twenty per cent of the improvement value.

Privately owned and operated joint stock land banks may also be organized, with a minimum capitalization of \$250,000. Altho their methods of procedure are, in general, similar to those of the Federal Land Banks, they have more freedom in certain respects than do the latter.

The progress of the Federal Farm Loan System is shown in the following table:

In August, 1919, a suit was instituted to test the constitutionality of the Farm Loan Act. The Supreme Court did not hand down its decision upholding the act until February, 1921. The restricting of loan activities during this period had the unfavorable consequence that the dammed-up credit demands of 1919, 1920, and 1921 were released at the beginning of the agricultural

depression. Consequently the Farm Loan System was not able to cope with the emergency situation as well as if its activities had been unrestricted during this critical period.

TABLE II

AMOUNTS LOANED AND NET LOANS OUTSTANDING, FEDERAL FARM
LOAN SYSTEM, 1917-1927
(\$000 omitted)

Year	Federal Land ^a Banks		Joint-Stock Land Banks		Total	
	Net in- crease of amount loaned	Net loans outstanding	Net in- crease of amount loaned	Net loans outstanding	Net in- crease of amount loaned	Net loans outstanding
1918	156,200	156,200	8,400	8,400	164,600	164,600
1919	141,900	298,100	52,600	61,000	194,500	359,100
1920	51,500	349,700	17,000	78,000	68,500	427,600
1921	82,800	432,500	7,100	85,100	89,900	517,600
1922	207,000	639,500	133,600	218,800	340,600	858,300
1923	160,100	799,600	173,900	392,600	334,000	1,192,200
1924	128,000	927,600	48,800	441,400	176,800	1,369,000
1925	78,100	1,005,700	104,100	545,600	182,200	1,551,200
1926	72,100	1,077,800	86,900	632,500	159,000	1,710,300
1927	77,800	1,155,600	37,300*	669,800*	115,100*	1,825,400*

* Including three banks in receivership.

We now come to the legislation of the war period and the depression following. At the height of the war the President placed \$5,000,000 at the disposal of the secretaries of the Treasury and Agriculture, to be loaned for purchases of seed in drought-stricken areas of the northwest and southwest. The loans, administered by the Federal Land Banks, amounted to \$4,200,000. Of this amount \$1,800,000 of the principal has since been released, \$1,400,000 has been collected, and \$900,000 remains uncollected.²

In an effort to alleviate the agricultural depression of

2. Annual Report of the Secretary of the Treasury, 1925, p. 96.

1921, Congress authorized the War Finance Corporation to extend credit to coöperative associations or financial institutions which might have made credit advances for agricultural purposes. The limit of such advances was \$1,000,000,000. The corporation ceased active operation and began liquidation January 1, 1925. It had approved 8749 advances amounting to \$479,300,000, but only \$298,300,000 was actually advanced. Of this sum, banks received \$172,100,000, livestock loan companies \$87,700,000 and coöperatives \$38,300,000. Altho only some 60 per cent of the advances approved were actually used, the knowledge that it was possible to secure funds did much to relieve the tense situation. Banks were better able to handle local short-term credit needs because hundreds of their "frozen loans" were transferred to the War Finance Corporation. In this manner scores of country banks were saved from failure.³ Corporation advances to coöperatives, while not large, enabled many to continue their activities.

The need for the activities of the War Finance Corporation made it apparent that existing credit sources failed to meet the peculiar requirements of farmers. One of the principal difficulties of the banking structure in the agricultural sections was that many of the loans, altho perhaps sound, were not liquid. Bankers had begun to realize (rather belatedly) that safety for them lay only in short-term loans easy of liquidation; but agriculture needs credit extensions for periods longer than sixty to ninety days. Previously, such longer-term credit had been supplied by local bankers who tacitly agreed to renew short-term loans from time to time. This led to bad consequences on two scores: bankers assumed that they had liquid assets because loans were

3. Ninth Annual Report of the War Finance Corporation, November 30, 1926.

for short periods, and farmers developed bad business practices by considering maturity dates mere fictions and paying their notes as they could. When bankers began to demand payment on maturity, farmers were aggrieved, feeling that the rules had been changed after the game was in progress.

When the Joint Commission of Agricultural Inquiry was appointed in June, 1921, it was instructed to inquire into agricultural credit conditions. Its report virtually absolved the Federal Reserve System from blame in connection with the agricultural deflation, and even admitted that the system had been especially solicitous of agriculture during the period; it ascribed the difficulties of farmers with respect to short-term indebtedness to the fact that comparatively few state banks were members of the Federal Reserve System, recommending that easier provisions be made for them to gain membership; and concluded that the existing commercial banking structure was not well suited to farmers' needs for loans maturing in from six months to three years — so-called intermediate credit. This weakness in our banking system had been recognized by students of agricultural credit for many years.⁴

This report ultimately resulted in the Agricultural Credits Act of March 4, 1923. Consideration of the history of this act — controversial points, compromises, and the usual legislative backing and filling — is not germane to the present paper.⁵ It is sufficient to say that the act seems to have been based upon the follow-

4. Nils A. Olson, C. O. Brannen, G. F. Cadisch, and R. W. Norton, "Farm Credit, Farm Insurance, and Farm Taxation," United States Department of Agriculture, Yearbook, 1924, p. 233.

5. For a description of the events leading to the passage of the Agricultural Credits Act and an analysis of the act, see V. N. Valgren, "The Agricultural Credits Act of 1923," American Economic Review (September, 1923), pp. 442-460; and C. L. Benner, *The Federal Intermediate Credit System*, Macmillan, 1926.

ing assumptions: first, that agriculture was hampered by a lack of facilities to satisfy all of its legitimate credit needs; second, that the cost of credit was too high; and third, that the Federal Reserve System was not adapted to meeting those agricultural credit demands that should properly be satisfied by it. The act created, under the supervision of the Federal Farm Loan Board a series of Intermediate Credit Banks, one located at the headquarters of each Federal Land Bank and serving the same district, and empowered to extend agricultural credit for periods ranging from six months to three years. Intermediate Credit Banks may rediscount agricultural paper for banks or other financial institutions, and may loan directly to coöperative associations, but not to individual farmers. The principal source of funds is from the sale of debentures secured by rediscounts. They are of short maturity and are tax free. The Federal government owns all stock in the banks. Each bank is capitalized for \$5,000,000, and may sell debentures to an amount equal to ten times the paid-up capital. Thus the twelve banks, if all were expanded to their legal limit, could extend credit amounting to \$660,000,000.

The act sets no specific discount rate, but provides, instead, that the rate shall not exceed by more than one per cent paid upon debentures last sold. Intermediate Credit Banks allow a 2 per cent margin between the rate charged borrowers and the rediscount rate on agricultural loans, and a $2\frac{1}{2}$ per cent margin on live-stock loans.

The direct loans and rediscounts made by the Intermediate Credit Banks are shown in Table III.

In addition to the Intermediate Credit banks, owned and operated by the government, the Act provides for privately owned and operated National Agricultural

Credit Corporations. These are of two kinds. Those having a minimum capital of \$250,000 are permitted to discount, rediscount, or purchase and sell paper held under the terms of the act. The original act did not permit National Agricultural Credit Corporations to

TABLE III

CREDIT ADVANCES OF THE INTERMEDIATE CREDIT BANKS, 1923-1927*
(000 omitted)

Year	Direct loans	Rediscounts	Total	Total outstanding Dec. 31
1923	34,700	9,400	44,100	42,700
1924	57,100	33,400	90,500	62,300
1925	124,200	53,500	177,700	80,100
1926	102,900	73,500	176,400	92,400
1927	55,000	87,200	142,200	75,900
Total	373,900	257,000	630,900	

* Eleventh Annual Report, Federal Farm Loan Board, 1927.

rediscount with Intermediate Credit Banks, but this permission was granted in a later amendment. Those National Agricultural Credit Corporations having a minimum paid-in capital of \$1,000,000 may act as rediscount corporations for members of the Federal Reserve System, and may loan directly to coöperative associations. Their powers are very similar to those of the Intermediate Credit Banks. All National Agricultural Credit Corporations are under the supervision of the Comptroller of the Currency. Only three have been organized since 1923, and two have been liquidated. These two were emergency organizations and apparently were not expected to continue active operations. The single existing National Agricultural Credit Corporation is located at Fresno, California, and makes only livestock loans. It has loaned \$9,600,000 to date, and has \$3,000,000 outstanding.

Besides providing for the organization of National Agricultural Credit Corporations, the act paved the way for the establishment of a new institution, the local

agricultural credit corporation.⁶ The Farm Loan Board defined an agricultural credit corporation as a corporation chartered under state laws to make loans for agricultural purposes or for the production of livestock or livestock products. These corporations are required to have a minimum capitalization of \$10,000 before they may rediscount with Intermediate Credit Banks, and are limited as to their rediscounts to ten times their paid-in capital. They loan directly to farmers. They are the largest single source of rediscounts.

To meet the third defect of the existing credit structure, the Federal Reserve Act was amended in important respects. Special provisions were made to increase membership among state banks. Reserve banks were permitted to discount demand drafts endorsed by member banks and secured by readily marketable staple agricultural products, and to hold the same not longer than ninety days. Paper arising out of agricultural transactions could be rediscounted for a period of nine months. Notes, drafts, and bills of coöperative marketing associations were considered to have been issued for agricultural purposes. Provision was also made for Federal Reserve Banks to rediscount for Intermediate Credit Banks and National Agricultural Credit Corporations, and to buy and sell their debentures. Under certain conditions Federal Reserve Banks could trade in the acceptances of those institutions. The volume of rediscounts maturing in from six months to nine months has been given in Table I. It is not possible to determine the amount of agricultural credit extended under the other amendments.

The Federal government was not the only source of agricultural credit legislation during the period following 1913. Many states considered credit legislation

6. Section 202, paragraph (1) under (a).

to be within their province, and numerous laws were passed with the object of bettering the credit position of farmers.⁷ These laws are not of especial interest, because for the most part they did not set up new institutions planned to furnish agriculture with a stable source of cheap credit, but merely authorized or instructed certain state boards to invest their funds in farm mortgages.

TABLE IV
STATE FUNDS INVESTED IN FARM MORTGAGES*

Date of Report	State	Amount loaned	Interest Per Cent	Term of Loans
1922	Arizona	1,500,000	6	5 to 15 years.
1926	Colorado	1,000,000	6	1 to 5 years.
1926	Idaho	4,000,000	6	15½ years; amortization.
1928	Iowa	6,000,000	5	5 to 10 years.
1928	Maine	140,000	5	1 to 20 years.
1928	Montana	4,400,000	6	3 to 10 years, 35 years; amortization is recent feature.
1928	Oklahoma	29,500,000	5	5 years, privilege of renewal for 5 years.
1926	Oregon	7,400,000	5 and 6	1 year renewable for 10 years; 36 years amortization.
1926	Utah	5,800,000	6	20 years; amortization.
1928	Wyoming	5,300,000	5	5 to 30 years; amortization.
Total		65,040,000		

* Sources of data are: Arizona, J. B. Morman, *Farm Credits in the United States and Canada*, pp. 182-186; Colorado, *Biennial Report, State Board of Land Commissioners*, 1926; Idaho, *Report of Department of Public Investments*, 1926; Iowa, J. W. Bodish, *Iowa State Board of Education*; Maine, Elbert D. Hayford, *Secretary Farm Lands Loan Commission*; Montana, I. M. Brandjord, *Commissioner of State Lands and Investments*; Oklahoma, H. B. Cordell, *President, State Board of Agriculture*; Oregon, *Report State Land Board and Rural Credits Department*, 1926; Utah, *Report State Land Board*, 1926; Wyoming, *Report Commissioner of Public Lands and Farm Loans*, 1927, *Monthly Report of Commissioner*, July 31, 1928.

Table IV shows the amount of state funds loaned and the terms of such loans in those states where these funds are of some significance.

Oregon is the only state listed above which has a spe-

7. George E. Putnam, "Agricultural Legislation and the Tenancy Problem," *American Economic Review* (December, 1915), pp. 805-815, reviews the rural credit laws passed by states prior to 1915.

cial rural-credits system. In 1917 a law was passed modeled on the Federal Farm Loan Act. Funds were to be secured from the sale of state bonds. Only \$400,000 of the \$7,400,000 loaned has been obtained under the provisions of that law. School funds are ample to meet demands, and the Farm Loan bonds sold are being retired as rapidly as possible. No further expansion is expected. Wisconsin also has passed elaborate rural-credit legislation, but it has been of no real service to farmers.

Special agricultural-credit institutions are being operated in North Dakota, South Dakota and Minnesota. Table V (page 106) shows the magnitude and character of the rural credit activities of these states.

The rural credits departments of these three states operate similarly to the Federal Farm Loan System. Funds are secured by the sale of state bonds. The South Dakota system was initiated in 1917, that of North Dakota in 1919, and that of Minnesota in 1923. Loans were made most rapidly during the period of the agricultural depression beginning in 1921. None of these states has had a uniformly happy experience with its farm loan department. The North Dakota system has a deficit which will probably be met by means of a tax levy. The South Dakota department has made no loans since 1926. At that time \$15,000,000 of its loans were delinquent. The board is now engaged in reducing its loans and bonded indebtedness to \$25,000,000, the limit set by a recent legislature. The Minnesota department also made many ill-advised loans during its early history. The present administration is conservative, however, and if current policies are continued, there seems to be slight ground for concern as to the ultimate success of the department. Earnings appear sufficient to cover any losses resulting from poor loans.

Another emergency institution must be mentioned —

TABLE V
FARM LOAN ACTIVITIES, NORTH DAKOTA, SOUTH DAKOTA, MINNESOTA *

Date of Report	State	Total Business to Date		Net Loans Outstanding	Present rate of interest	Term of Loans
		No. Loans	Amount Loaned			
Dec. 31, 1927	North Dakota	10,365	29,075,000	28,474,000	6.5	26 years; amortization. Loans limited to 50% of value of security
June 30, 1927	South Dakota	11,693†	45,120,000†	30,782,000	5.5 to 7.0	30 years; amortization. Loans limited to 70% of land value and 40% building value
Dec. 31, 1927	Minnesota	10,181	48,454,000	44,536,000	5.25	35½ years; amortization. Loans limited to 50% of land value and 33¼% of building value

* Sources of data: For North Dakota, Reports of North Dakota Industrial Commission; South Dakota, Reports of State Rural Credits Board; Minnesota, Reports of Department of Rural Credit.
† From July 1, 1917 to July 1, 1924.

the Agricultural Credit Corporation. It was organized as a result of the President's Conference of February 4, 1924, which was called "to consider the pressing agricultural needs of the northwest." The capital of \$10,000,000 was subscribed by bankers in the east and middle west. Headquarters were established at Minneapolis. The knowledge that funds were available served as a stabilizing influence at a time when affairs in the northwest were approaching panic conditions. Up to September, 1924, the corporation loaned \$5,142,000 to two hundred and thirty banks, a service which undoubtedly saved many of them. In September, 1924, the president of the corporation announced that the emergency functions were no longer required. The corporation has continued to operate, but has been devoting its resources to the promotion of diversification of farming.⁸

II

Some estimate of the total farm-mortgage indebtedness for different years is needed in order to judge the effect of the new institutions. The estimates given below are probably as accurate as can be made in view of our fragmentary knowledge of farm indebtedness.

TABLE VI
FARM MORTGAGE INDEBTEDNESS, 1910-1927

Year	Amount
1910	\$3,470,000,000†
1920	8,560,000,000*
1925	9,200,000,000†
1927	9,000,000,000‡

* Computed by method of Department of Agriculture for 1920.

† V. N. Valgren and Elmer E. Englebert, "Farm Mortgage Loans by Banks, Insurance Companies, and Other Agencies," United States Department of Agriculture, Bulletin 1047, 1921, p. 3.

‡ James Lee Loomis, "Synchronizing Life Insurance Investments with changing National Needs," p. 7; address before the Association of Life Insurance Presidents, New York, Dec. 9, 1927.

8. Report of Secretary of Treasury, 1924, pp. 72-75.

Estimates for 1910, 1920, and 1925 are probably high, because they are based upon the assumption that the proportion of mortgage debt to total value is the same for all farms as for those owner-operated farms reported by the Federal census. Mr. Loomis's estimate may also be high, but it seems consistent with those of earlier years. Since 1925, many farms have passed from the possession of former owners to creditors. These transfers have cancelled a large amount of mortgage indebtedness. It is, furthermore, probable that farm-mortgage indebtedness has not increased since 1925 because the deflation of land prices has been an effective barrier to general increases of mortgage debt.

TABLE VII

FARM MORTGAGES HELD BY 52 LEGAL RESERVE LIFE INSURANCE COMPANIES *

(These companies held, in different years, from 90.9 to 98.3 per cent of the admitted assets of all United States Legal Reserve companies.)

December 31	Farm Mortgages
1906	\$268,166,000
1911	485,634,000
1916	791,945,000
1921	1,321,679,000
1924	1,801,664,000
1925	1,878,896,000
1926	1,941,956,000
1927-Sept. 30	1,972,310,000
†1927-Dec. 31	1,999,000,000

* James Lee Loomis, "Synchronizing Life Insurance Investments with Changing National Needs"; address before the Association of Life Insurance Presidents, New York, Dec. 1927, p. 16.

† Estimated by Association of Life Insurance Presidents.

The proportion of the total debt held by various loaning agencies is a good index of the influence of the newer rural-credit institutions. The following table shows that, in 1911, life insurance companies held \$486,000,000 of farm-mortgage loans. This was 14 per cent of the estimated total for 1910.

In 1921 these companies owned \$1,322,000,000, or 15.3 per cent of the 1920 total.⁹ The 1925 mortgage holdings of insurance companies were \$1,879,000,000, or 20.4 per cent of the 1925 total. Their holdings in 1927, \$1,999,000,000, constituted 22.2 per cent of the estimated total of nine billions of mortgage debt. It appears, therefore, that the life insurance companies have become, since 1910, both absolutely and relatively, a more important source of farm-mortgage credit. From 1910 to 1927, total mortgages increased 259 per cent and life insurance mortgages increased 411 per cent.

In 1906, farm mortgages constituted 9.3 per cent of the total investments of life insurance companies. This proportion increased to 18.7 per cent in 1924, and has since declined to 15.2 per cent.¹ There may be several reasons for this. During the first two decades of the century, farm mortgages were considered among the safest of all investments. Experience of farm-mortgage owners since 1920 has done much to disabuse them of that belief. Other types of investment may have absorbed many of the funds which would otherwise have gone into farm mortgages. In 1906, life insurance companies had 19.2 per cent of their investments in city mortgages, and in 1921 only 16.7 per cent, an absolute amount less by \$70,000,000 than was invested in farm mortgages. Since 1921, there has been much activity in city development, and city loans have gained in attractiveness as compared with other investments. At present, insurance companies have 28.2 per cent of their assets invested in city mortgages — almost twice as much as in farm mortgages. Perhaps the farm-mortgage field is becoming saturated. Some life insurance execu-

9. Note that the mortgage loans of life insurance companies for 1911 and 1921 have been compared with estimates of total mortgages for 1910 and 1920.

1. James Lee Loomis, *op. cit.*, p. 16.

tives believe that about as much mortgage credit has flowed into agricultural areas eligible for life insurance loans as can be conveniently and profitably used.² If this attitude is generally held by officials of life insurance companies, the capital needed to develop agriculture in less attractive sections must be supplied by other agencies.

No doubt the progress of the Federal Farm Loan System has been a factor in the situation. In 1910, all farm-mortgage loans were held by insurance companies, banks, and private investors. By 1920, the Federal Farm Loan System held \$428,000,000 of mortgage loans, or 4.9 per cent of the total. By 1925, the System held \$1,551,000,000 of mortgages, or about 17 per cent of the total mortgage debt. At the end of 1927, the \$1,825,000,000 of farm loans of the Federal Farm Loan System constituted 20.2 per cent of the estimated \$9,000,000,000 of loans, and the \$1,999,000,000 of the life insurance companies was 22.2 per cent. At present, therefore, these two agencies hold more than 40 per cent of the total farm-mortgage debt. This concentration has taken place at the expense of commercial banks, private investors, and former owners of farm lands. In 1920 the same group supplied about 80 per cent of the mortgage loans; in amount, about \$6,913,000,000. In 1925 its holdings had been reduced to 63 per cent of the total, or \$5,786,000,000, and in 1927 to 58 per cent, a total of \$5,220,000,000. It seems probable that the amount of farm mortgages held by farm-mortgage bankers has not greatly changed. Mortgage holdings of state agencies have become slightly more important, increasing from

2. Loomis, *op. cit.* p. 7.

3. V. N. Valgren and Elmer E. Englebert, "Bank loans to Farmers on Personal and Collateral Security," U.S. Department of Agriculture, Bull. 1048 (1922), p. 3.

\$95,200,000 in 1920 ³ to \$169,000,000 at present. These holdings now represent about 1.9 per cent of the total.

In 1920, the Department of Agriculture estimated the mortgage holdings of commercial banks at \$1,448,000,000.⁴ The agricultural depression forced many banks to reduce their mortgage holdings. Mortgage loans have been shifted to other institutions, principally to life insurance companies and to the Federal Farm Loan System.⁵ In consequence, farm mortgages now held by commercial banks are below the 1920 estimate.

Former owners who have taken mortgages in part payment for farms constitute an important source of mortgage credit. It is hardly possible to estimate the amount of such holdings. During the last five or six years, it is probable that the mortgage holdings of this group have declined, since sales of farms have been relatively few. Many farms have reverted to former owners, thus cancelling the mortgages. There has also been a considerable shifting of loans to the Federal System by borrowers who preferred the longer-term amortized contract. Former owners have always carried the bulk of second mortgages. It may well be that the proportion of second mortgages held by this group has increased because of the shifting of first mortgages to other agencies.

The new institutions have had less effect upon the short-term credit situation than upon mortgage credit. The Intermediate Credit System was the only institution specifically created to assist in the supply of relatively short-term credit. As we have previously noted, it was meant to take care of credit requirements for periods longer than six months. It was assumed that commercial banks and the Federal Reserve System could amply satisfy the truly short-term needs. Just

4. Bulletin 1047, p. 6.

5. James Lee Loomis, *ubi sup.*, p. 7.

what volume of agricultural loans banks hold at the present time is impossible to determine, for bank reports do not classify loans in sufficient detail to give this information. At the end of 1920, the Department of Agriculture estimated short-term agricultural loans by banks at \$3,870,000,000.⁶ No estimates have been made for later dates.

In view of the recent agricultural situation it seems improbable that the short-term indebtedness of agriculture is larger at present than during 1920 and 1921. Despite the continuance of relatively depressed conditions, farmers have reduced the total amount of their short-term borrowings. One indication of this is the reduction of agricultural paper rediscounted by Federal Reserve Banks from \$373,000,000 in 1921 to \$104,000,000 during 1926.⁷ Had there not been a liquidation of farmers' paper, rediscounts would have remained high. Banks in all agricultural areas have made a determined effort to reduce loans to farmers and have undoubtedly maintained pressure to keep borrowing at a lower level.

It has been shown previously (See Table III) that Intermediate Credit Banks have advanced \$373,900,000 to coöperative associations, of which \$232,300,000 has been original loans and \$141,600,000 renewals. This is only a small proportion of the credit required annually by coöperative associations. Metropolitan banks are making special efforts to accommodate coöperatives, and have extended credit upon terms as favorable as those granted to any business. Once commercial banks become familiar with the operations of coöperatives, credit extensions are made expeditiously and with fewer annoying regulations and requirements than from Intermediate Credit Banks.⁸ Nevertheless, the establish-

6. V. N. Valgren and Elmer E. Engleberts, *op. cit.*

7. See Table I.

8. Herman Steen "Financing Problems of Coöperative Associations," *American Coöperation*, 1927, i, 387-402.

ment of Intermediate Credit Banks has placed coöperative associations in a strong position in their negotiations for credit. Commercial banks can secure their business only by offering better terms, either in lowered interest charges, more convenient service, or both.

From 1923 to 1927 financial institutions in forty-one states have loaned to farmers and rediscounted with Intermediate Credit Banks. Renewals amounted to \$80,700,000 and original rediscounts to \$176,300,000. Livestock loans predominated, and these have been made for the most part in the west. Most general agricultural loans have been made in the northwest and in the south.

Of the institutions rediscounting with the Intermediate Credit Banks as of December 31, 1927, local agricultural-credit corporations had rediscounts of about \$23,000,000, livestock loan companies, \$21,000,000, and other financial institutions, \$183,000.

Since the organization of the system, a total of 615 financial institutions has been served by Intermediate Credit Banks. Of these, 366 were agricultural-credit corporations, 84 were livestock loan companies, 145 were state banks, and 20 were "other" institutions. There are approximately 27,000 banks in the United States. Since only 165 have made use of the Intermediate Credit System, it is apparent that the system has had little direct effect upon the volume of credit made available by local banks. Because of the small margin allowed between rates on loans and rediscounts, local banks would ordinarily have to reduce rates charged borrowers if they rediscounted with Intermediate Credit Banks. The act also limits rediscounts of national and state banks to twice the paid-in and unimpaired capital and surplus. This restricts the activities of banks and directs their rediscounts toward the Federal Reserve

System or correspondent banks instead of toward the Intermediate Credit Banks.

Local agricultural-credit corporations have had their greatest growth in the St. Paul, Columbia, Wichita, and Omaha districts. At first, a number of corporations were organized by banks in an unsuccessful effort to liquidate "frozen assets" by shifting doubtful paper to Intermediate Credit Banks. It was shortly made clear that the system was not an emergency institution and that only sound loans would be accepted. Consequently, a number of these early corporations liquidated. The present tendency is to organize corporations independently, and of such size that they may become self-supporting enterprises.

In some districts of the south, where local banking facilities are not well developed, and where credit obtained from local merchants is very expensive, often costing in effect from 40 to 60 per cent annually, some coöperative marketing associations have organized agricultural-credit corporations to make loans for purposes of crop production. Their loans have proved of great assistance in several states. The corporations have not been universally successful, however, probably because of incompetent management rather than because of the impracticability of the plan. That these organizations can be operated successfully is demonstrated by the fact that one corporation loaned over \$600,000 last year, with a loss of but \$500.

In the middle west, coöperative livestock commission associations have successfully financed sales of feeder cattle through a local agricultural-credit corporation. Loans have been limited to \$10,000, mature in nine months, and bear 6 per cent interest. Bankers who were at first opposed to the plan are now placing loans through the corporation and consider the service a use-

ful addition to their credit facilities.⁹ It would appear that agricultural-credit corporations have already proved useful in supplying production credit, and an expansion of their activities may be expected, particularly in those sections where banking is poorly developed or where production demands cannot readily be met by existing agencies.

Credit advanced by National Agricultural Credit Corporations has been of minor importance. Activities of these institutions are so restricted by law that private capital has not been attracted. It is not expected that they will become numerous. Most of the direct credit advances under the Agricultural-Credit Act of 1923 will probably be made by local agricultural credit corporations.

The new credit agencies may also have had an important effect on the terms of loans and on interest rates. Terms of mortgage loans under the old credit system were open to serious criticism. Mortgage loans were usually written for five years with no provision for renewal. All loans written by federal agencies are long-term amortized loans. Those of special state agencies are of this type, as are also those of a number of life insurance companies. Although the bulk of farm mortgages is still made for a period of five years, this restriction no longer is serious since most farmers who want long-term amortized loans can secure them.

There is no doubt that commissions now charged are lower than they were prior to 1916. The Federal Farm Loan Act prohibited the charging of commissions on loans from Federal agencies. Hence, competition from Federal banks has been almost as effective in stopping the practice as if the law had abolished commissions

9. Letter from Mr. C. B. Denman, President, National Livestock Producers Association.

everywhere. It is a safe conclusion that the farmer who is a good risk no longer has to pay a commission for obtaining his loan.

The percentage of value loaned probably has not changed materially. A 50 per cent loan has always been considered a maximum by conservative mortgage lenders. Many insurance companies lend only upon land value, although they require property to be improved. Federal loans, with their limit of 50 per cent of the land value plus 20 per cent of the building value, appear to be somewhat more liberal; but in practice these loans have always been limited to 50 per cent of the estimated sales value of the farm.

As regards interest rates there has also been a gain. Before 1916 there was much dissatisfaction with high interest rates on first mortgage loans. Federal Farm Loan rates are uniform regardless of location. Consequently, farmers eligible for Federal Farm loans are borrowing at considerably lowered rates in the less developed regions. First-grade loans were already at low rates in the Middle West. There is little doubt that the Federal Farm Loan System has narrowed the margin between the farm-mortgage interest rate and the rate upon other types of investments, and has also tended to equalize rates in different areas.¹ In 1890, farmers were paying an average rate of 7.1 per cent. This was 2.4 per cent higher than the average rate of return on ten high-grade railroad bonds. In 1920, the average farm-mortgage rate was 6.1 per cent, which was only 0.25 per cent higher than the average yield of ten such bonds. The Federal Farm Loan System has not been the chief contributor to this change, but it has played its part. Other evidence is seen in the changing interest rates on insurance company loans. In 1921 the

1. U. S. D. A. Yearbook, 1924, p. 24.

rate on new loans was 6.46 per cent, which was 0.88 per cent above the average yield on the ten bonds; while in 1914 the average mortgage rate had been 1.09 per cent above the average bond yield.

III

One of the criticisms leveled at the old agricultural credit system was the inadequacy of existing facilities, particularly those extending farm-mortgage credit. The advent of the Federal Farm Loan System, however, has done much to alter early conditions. The 4669 national farm loan associations act as points of contact with farmers everywhere. There are also fifty active joint stock land banks operating in all states except the New England group, Delaware, Florida, and New Mexico. Most of these banks have local agents, often commercial banks, linking the individual farmer with the credit supply of the bank. In certain states farmers have access to mortgage credit through state credit institutions. For the country as a whole this source has been insignificant, but for Minnesota, North Dakota, South Dakota, and Oklahoma, it has been important. In addition to these public or quasi-public agencies there are the older sources of credit — insurance companies, commercial banks, mortgage bankers, savings banks, trust companies, and private investors.

The rapidity of growth of the Federal Farm Loan System has been noted earlier in this paper. Should this rate of growth continue, it will be only a short time until the Federal Farm Loan System will hold more mortgage loans than do insurance companies, and both together will hold the bulk of the total farm-mortgage debt. It is likely that the Federal Farm Loan System will continue to grow at the rate of over \$100,000,000 annually for several years. Life insurance companies

will not expand their farm loans rapidly, because they restrict their loaning operations to the better agricultural sections. Of course, the Federal System will continue to loan in the best districts, but it will not be able to draw many loans from insurance companies. Instead, both will take loans from other agencies and in time will hold most of the eligible loans in the better areas. The greatest expansion of the Federal Farm Loan System is likely to take place in those areas where life insurance companies do not loan. There the principal competition is from banks and private investors. The latter group is becoming educated to other forms of investments, and banks loan at such high rates and for such short periods that Federal loans will almost always be preferred. Eventually the larger part of the eligible loans in such areas will be held by Federal Agencies. It must not be inferred that the bulk of Federal loans will be in the poorer agricultural areas, but Federal agencies will hold a larger percentage of the eligible loans in such areas than in the better areas.

Each year's operation of the Federal Farm Loan System places it in a more advantageous position for meeting promptly future demands upon it. As we have seen, its operations were greatly reduced during 1919, 1920, and 1921, because of the constitutionality test. Altho the favorable decision was rendered early in 1921, it was not possible to get operations under way until 1922. If the system could have loaned \$500,000,000 at this time, instead of some \$160,000,000, it would have been better able to meet the unusual demands later.

Had the Federal Farm Loan System been meeting all demands for loans from eligible farmers during the period of the depression, it is extremely doubtful whether any state rural-credit departments would have been formed. The entrance of state governments into

the farm loan business involves important questions of public policy. Proceeds from the sale of state bonds are loaned to persons engaged in a specific industry, upon terms of repayment not differing widely from those of the Federal Farm Loan System. Such terms are possible only because the state is pledged to pay interest and redeem the bonds upon maturity. Here is a direct lending of the state's credit for the benefit of a particular class of its citizens. If state rural-credit bonds were secured only by mortgage loans, as are Federal Farm Loan bonds,² farmers borrowing from state departments would have to pay higher interest charges. Loaning policies of state agencies have been more liberal than those of Federal institutions. The respective state governments are bearing this increased risk which would otherwise have to be borne by farmers. It is questionable if such direct subsidizing of agriculture can be wholly justified. As emergency measures, however, these state rural-credit laws were probably warranted. The pledging of the taxing power of a state in such cases cannot be considered class legislation, for if the most important industry can be saved from collapse, the people of the state generally will benefit. Shortly after the inauguration of the North Dakota and South Dakota systems and at the time the Minnesota system was established, these states did face an emergency. The activities of the state agencies during the period of the depression saved many hundreds of farmers and scores of country banks from insolvency. The Federal System was unable to cope with the situation. If the loaning policies of state agencies during the emergency period result in losses which future profits cannot absorb, the people of the states should pay the losses will-

2. The additional security of the capital of the banks is inconsequential.

ingly. Such losses, in all probability, will be negligible as compared to those which would have been incurred had not credit been available. When such critical periods have passed, however, it is doubtful whether states should continue loaning activities. Especially is it doubtful now, in view of the progress of the Federal Farm Loan System. Within a very few years, if not at present, the Federal System should be able to meet all demands for eligible farm loans, even during periods of abnormal demand.

It must be remembered, too, that a considerable proportion of loans made by state agencies is not eligible in the Federal Farm Loan System. Some, no doubt, should not have been made at all. But aside from these few bad loans, there are numbers of loans made by state agencies upon which interest is being paid regularly and the principal reduced, but which, for one reason or another, are ineligible in the Federal System. These are the so-called low-grade loans. They may exceed by a small margin the percentage of value permitted by the Farm Loan Act. The borrower may be a good farmer, progressing from tenancy to ownership, but may not have accumulated more than one fourth to one third of the purchase price of the farm. Then, too, there are the deserving farmers located in poor agricultural areas. State agencies have made loans falling in each of the above classes. It cannot be learned how many of the former class are held by state agencies, but the geographic distribution of state loans shows that many loans have been made in the poorer farming areas. This is an indication that such areas are not adequately served by existing agencies.

Some difficult questions still await solution. What provision should be made to meet credit requirements of farmers who need loans of more than 50 per cent of

farm value, those of tenants trying to become owners, who also need more than a 50 per cent loan, and those of farmers in the poorer agricultural areas? Insurance companies loan to none of these groups. The Federal Farm Loan System cannot make loans to the first two, and it stays out of the poorer areas so far as possible. A considerable proportion of farmers are thus left without adequate credit facilities. It may be argued that there are too many farmers at present, and that easy credit for these border-line cases would tend to increase farm production and inflate land prices.³ Under certain conditions this might be true. But these farmers are now producing, and, what is more significant, if they fail, others will continue production on the same land. In most cases the farms are not marginal, even tho their present occupants, because of lack of adequate financing, may be marginal. No one advocates the extension of credit on farms which should not be in cultivation, or to farmers who are inherently poor credit risks. But credit should be made available to those capable farmers who are somewhat under-financed, and to those who are farming land which is not marginal, but is located in unfavorable agricultural areas.

The deserving tenant, of course, is found in all agricultural areas. In fact, he is found in greater numbers in the better farming districts. It is to be deplored that his credit needs should be ignored while those of his landlord are met by numerous agencies. It is generally assumed that a large percentage of farm ownership is indicative of a more desirable social structure than is a large percentage of tenancy, and yet credit facilities are lacking, whereby increased ownership may be accomplished.

3. C. L. Benner, "Has Credit Legislation Gone far Enough and in the Right Direction?" *Journal of Farm Economics* (January, 1925), p. 88.

This discussion raises the question as to what agency is best equipped to perform this service. Should a new institution be created or should one of those in existence take over this function? There is a possibility that the Federal Farm Loan System could perform this function by loaning a larger percentage of the value of the security, and still maintain its present stability. The widespread character of its operations introduces an insurance feature which might offer ample protection. An alternative would be the establishment, under the supervision of the Federal Farm Loan Board, of a second-mortgage department, whose activities would be kept entirely separate from those of the present system. Probably neither scheme is practicable until a system of appraisal superior to that now used is developed. Federal banks have been unable to prevent losses even with a supposedly 50 per cent margin of security. Present methods of appraisal are too inaccurate to justify adoption of a more liberal loaning policy.

Appraisal methods have not been improved during the past fifteen years. The system now followed—that of having a more or less experienced man estimate the normal selling price of a farm—is the same as that which always has been employed by loaning agencies. Until the agricultural depression, the plan worked fairly well so far as lenders were concerned. When land prices began to decline, however, the inadequacy of that system began to appear plainly in the form of delinquencies, foreclosures, and absolute losses of principal. Despite the apparent necessity for improved methods, none has been introduced. Lenders have endeavored to protect themselves by reducing appraisals and percentage of appraised value loaned to a point where safety seems assured. They are, however, without any very definite guide as to what the extent of these reductions should be.

The Federal Farm Loan System is in a position to make valuable contributions to appraisal methods, but as yet it has done little except to adopt uniform appraisal blanks and to make some effort to train appraisers, thus unifying practices in various parts of the country. At present, it is making a determined effort to improve the quality of its appraisals by improving its appraisal personnel, and by supervising the work of individual appraisers. Without doubt these efforts will result in a somewhat higher quality of appraisals, but marked improvement will come only when scientific investigation develops a method of isolating and measuring the factors underlying land prices that can be applied generally. Eventually rule-of-thumb methods will pass, but there is little that points in that direction at present.

Preliminary studies of land-valuation problems indicate that the setting of a 50 per cent limit for loans in all areas is unwarranted, for in some districts a 50 per cent loan may be higher than a 60 or 70 per cent loan in others.⁴ It seems probable that a comprehensive solution of the present inadequacy of certain kinds of mortgage credit must await the development of improved methods of appraisal. Nevertheless it should be recognized that such credit needs exist.

The credit facilities for agriculture in the South are probably less adequate than those for other sections of the United States. The prevailing type of southern agricultural organization imposes many problems not met elsewhere. The Federal Farm Loan System has done a great deal in making funds available, but the farm-mortgage situation is still not satisfactory, because southern states were not so well supplied as the

4. C. R. Chambers, *Relation of Land Income and Land Value*, United States Department of Agriculture, Bulletin 1224.

other areas with mortgage credit before the establishment of the Federal Farm Loan System. Consequently, the Federal System has had a greater task before it in the South, and some time will still be required before mortgage conditions approach those of the North and West.

IV

The most serious weakness in the farmers' credit position is with respect to short-term credit, for which farmers are dependent, in greater part, upon commercial banks. One indication that commercial banks have not successfully handled farmers' short-term credit is to be found in the record of bank failures. During the period from 1921 to 1927, a total of 3390 banks failed, of which 557 were national banks. In this seven-year period, 1482 more banks failed than during the preceding thirty-one years.⁵

The banks which failed were located for the most part in agricultural areas. In 1923 the states having ten or more failures of state banks were Indiana, Iowa, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oklahoma, and Texas.⁶ More than one half of the total number of suspensions during 1924-1925 were in the six states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, and Oklahoma, and more than 80 per cent of the suspensions were in these and the nine other states of North Carolina, South Carolina, Georgia, Texas, Nebraska, Montana, Wyoming, and New Mexico.⁷ In 1926, 80 per cent of the total number of suspensions were in Iowa, South Dakota, Minnesota, North Dakota, Missouri, Kansas, Michigan, Texas,

5. Reports of the Comptroller of the Currency.

6. Annual Report, Comptroller of the Currency, 1923.

7. Bank Suspensions in 1924 and 1925, Federal Reserve Bulletin April, 1926, pp. 247-248.

Oklahoma, Georgia, South Carolina, and Florida.⁸ The New England and Eastern states had only six, twelve, and three bank failures respectively in 1924, 1925, and 1926 as compared with 578, 166, and 202 for the same three years in the western group, and 206, 166, and 231 in the middle-western group. The southern states have had the next largest number of failures. The liabilities of suspended banks in North Dakota in 1924 were about eight times, and those of closed banks in South Dakota some seventeen times the liabilities of all banks failing in the Eastern and New England groups combined.

This surely is evidence enough that the short-term credit facilities for agriculture are unsatisfactory. When banks within a state fail by the hundreds, a situation is created which approaches complete disruption of credit facilities. Every bank failure means that farmers in some area have been deprived of an important source of short-term credit. The continuance of hundreds of bank failures for year after year is one of the notable characteristics of the present country-banking situation. There were 358 failures in 1921 and 397 in 1922. The number fell to 274 in 1923, but in 1924 rose to 915. In 1925 and 1926 there was a decline to 542 and 573 respectively, but in 1927 the failures jumped to 831. There have been other periods when bank failures were relatively numerous, but never has the period been so prolonged.

The prime cause of these failures has been, of course, the agricultural depression. Banks became filled with farmers' paper during the war period when prices were high and credit plentiful. With the drop in prices of farm products much of the paper became worthless. Banks have been wont to call much of this worthless paper "frozen assets," and have struggled along for

8. Annual Report, Federal Reserve Board, 1926, p. 11

several years, hoping that it would be liquidated. Since agriculture has not recovered in the manner expected, banks holding large amounts of these "frozen assets" have closed their doors.

Those states where bank failures have been most numerous have had too large a "bank population." In the six states having over 50 per cent of the bank failures in 1924 and 1925, the number of banks varied from one for every 800 to 960 persons in Missouri and Oklahoma, as compared with but one bank for each 7300 persons in New England.⁹ Where banks are so numerous, many must be small — so small, in fact, that they can only with difficulty meet their expenses if too conservatively operated. Consequently, they are constantly tempted to enter into more or less hazardous transactions.

That the smaller bank was less able to withstand the stress of the depression is shown by the fact that the 1389 banks failing in the United States during 1924 and 1925 had an average capitalization of \$38,243 as compared with an average capitalization of \$100,136 for all banks. In the middle west, the capital of suspended banks was \$38,406 as compared with \$84,970 for all banks.¹ The difference was slight among banks in the western states — \$33,333 as against \$36,817. Sixty-three per cent of the suspended banks in the western area had capital of \$25,000 or less, and 71 per cent had \$50,000 or less. Where nearly all the banks are small, the whole system is weakened, and a correlation of size of banks with failures does not bring out the consequences of such a system.

Another factor that has contributed to the failure of country banks is their high specialization in serving a single industry. City banks, with a varied clientele, are

9. Federal Reserve Bulletin, April, 1926, pp. 247-249.

1. Ibid.

not dependent upon the continued success of any one industry. The country bank cannot diversify its risks, and in consequence it reflects immediately the vicissitudes of agriculture.

It is also significant that those states with the greatest number of bank failures had a large proportion of banks outside of the Federal Reserve System. For example, of the banks in the states of North Dakota, South Dakota, Minnesota, Nebraska, Kansas, Iowa, Missouri, Arkansas, North Carolina, Georgia, and South Carolina, only from 10 to 26 per cent were members of the Federal Reserve System in 1921.² It would seem that membership in the system, with its requirements as to size, examinations, and general supervision, does add something to the ability of banks to withstand adverse conditions.

This discussion leads necessarily to consideration of what may be done to establish the short-term agricultural-credit machinery upon a sound basis and to prevent future disturbances. Before definite and final conclusions can be reached, more needs to be learned about the country bank problem than is now known. Nevertheless certain suggestions may be made. Perhaps they would be more fittingly stated in the form of interrogations and hypotheses. As to number of banks, it would seem that the situation could be gradually corrected by exercising greater discretion in granting new charters, by raising minimum capital requirements, and by fostering consolidations in communities with too many banks. It is probably not necessary that all banks become members of the Federal Reserve System, but it does not seem unreasonable that states should require every bank to be eligible for such membership. Bank examinations should be more frequent and more thorough than at present. Finally, some attempt should be made

2. Annual Report, Federal Reserve Board, 1921, p. 63.

to solve the problem of the added risk assumed by country banks because of the undiversified character of their business. In this connection branch banking demands serious consideration.

To intensify the problem of the country bank, there has developed a widespread feeling that, as a reaction to their experiences of the past few years, the banks are now unduly conservative in their loaning operations. Many country banks are now investing their funds in readily marketable securities, thus drawing away from the local communities funds which are needed for their development. Rates on loans are high, the legal rate usually being the minimum. Many banks are unable to reduce rates because their small volume of business is not sufficient to pay both expenses and a reasonable profit. It is clear that short-term credit facilities of farmers will not be adequate until the country bank problem is solved.

V

So far as the intermediate credit problem is concerned, it would seem that a foundation has been laid for a successful solution of it in the Intermediate Credit Banking System. The banks of this system are in a position to be of greater assistance to agriculture than they have been thus far. The local agricultural-credit corporation could be made to serve a very useful purpose. The administrators of the Intermediate Credit System have not actively fostered the formation of such corporations, on the ground that these would be activities in direct competition with country banks. It has assumed that the Intermediate Credit System should not become an aggressive institution, seeking to extend credit, as has the Federal Farm Loan System. Consequently, the Intermediate Credit System has drifted

into a passive rôle, extending credit when asked, but making little or no effort to make its existence felt.

Neither are the Intermediate Credit Banks loaning as much to coöperative associations as might have been expected. Coöperatives for the most part would like to secure their funds from the Intermediate Credit Banks, because they feel that such banks should be more sympathetic to their activities than are commercial banks, and that in a crisis the Intermediate Credit Banks would be a surer source of funds. In fact, however, coöperatives find that arrangements with commercial banks are more flexible and workable than those with Intermediate Credit Banks because of the inordinate amount of "red tape" to which they are subjected when applying for Federal loans.³ If the Intermediate Credit Banks are to take their proper place in financing coöperatives they must alter their methods. There is the feeling, too, that the Intermediate Credit Banks are too arbitrary with respect to the form of coöperative organization required before advances may be made.⁴ It may be necessary to amend the law in minor respects, but a more active administration alone would accomplish much. It is the South that is particularly lacking in production and short-term credit. Banking is poorly developed in some sections, and even where it is developed banks may avoid short-term loans to farmers. This has forced farmers to seek credit from merchants, and has given rise to a system of store credit which is very expensive and which furnishes farmers only with bare necessities. Farmers in the South need production credit sufficient in amount to permit improved methods of production. This cannot be supplied from existing

3. Herman Steen, "Financing Problems of Coöperative Associations," in *American Coöperation*, ii (1927), 398-399, 402.

4. See discussion of this point in *American Coöperation*, i (1926), p. 354.

sources. The agricultural-credit corporations fostered by coöperative associations have successfully extended production credit in a few cases. The situation demands an extension of such activities, or at best giving these corporations a thoro trial, and perhaps the formation of other independent agricultural-credit corporations. The credit now extended by merchants could be furnished more cheaply and safely by specialized loaning agencies. If the bulk of this credit could be transferred to banks or agricultural-credit corporations, it would be a tremendous boon to farmer-borrowers.

VI

Such, then, is the present status of the agricultural-credit situation in the United States. First-mortgage credit facilities are reasonably adequate except in the more undesirable farming districts. There is need, however, for facilities to extend credit for a larger amount than 50 per cent of the value of the security if farm ownership is to be encouraged. The first step in progress in this direction lies in the improvement of our prevailing methods of land appraisal. The present inadequacies in our mortgage-credit facilities cannot be met until methods of land appraisal are more dependable.

Short-term credit needs are not as well provided for as are mortgage-credit needs. Our short-term credit institution — the country bank — has proved quite inadequate during a prolonged period of agricultural depression, and there is no indication that the experience would not be repeated in another similar situation. Some means must be found to give greater stability to the smaller banks. Some improvement might be achieved by stricter banking laws, larger capital requirements, and more careful regulation. But it would appear that the real difficulty lies deeper. A thoro

study of the credit problems of the country banks is needed before fundamental remedial measures can be suggested or adopted. Our recent experience makes it apparent that we do not know enough about short-term agricultural credit.

Adequate provision for intermediate credit depends mostly upon more progressive administration of the present Intermediate Credit System. During the five years of its existence, the Intermediate Credit System has shown that it could make an important place for itself in the financing of agriculture. But its administration has allowed it to drift into a position of relative impotence. The situation now calls for better leadership, such as will extend the operations of the system and make its facilities more easily available to agriculture.

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REVIEWS

HOMAN'S CONTEMPORARY ECONOMIC THOUGHT¹

IN Professor Homan's title, "contemporary" is to be given a broad interpretation, and "economic thought" a narrow one. What we find in the book is a series of five essays dealing respectively with John Bates Clark, Thorstein Veblen, Alfred Marshall, John A. Hobson (90 pages each), and Wesley C. Mitchell (60 pages), with short introductory and concluding chapters (15 and 30 pages). As the discussion is practically limited to the general theoretical aspects of the work of each man, the space used permits of a fairly adequate treatment, and on the whole one must say that the author has used it well. His selection, presentation, and characterization of the essential ideas which the economists mentioned stand for will doubtless come as near to commanding assent from fair-minded readers of all schools as could be done by any one man treating of the work of others.

The essays on Veblen and Hobson are the best in the volume. Professor Homan is sympathetic with the general position of these men and at the same time clearly aware of the particular weaknesses, errors, and inconsistencies of each. He presents their contributions with clarity and power, and their limitations just as clearly, yet with dignity and respect. His handling of Veblen in particular has been of high value to the present reviewer, who has always been aware of a difficulty in justly appreciating that author — no doubt due in part to knowing him only as an author and to having come to economics with a physical-science and not a biological mental set. The labor of interpreting Veblen's inextricable mixture

1. *Contemporary Economic Thought*, by Paul T. Homan. New York: Harpers, 1928; pp. xii, 475.

of satire that is more or less amusing with "science" that ranges from inspired insight to dogmatic assertion of generalizations impossible to take seriously, has not always seemed remunerative. Hence this able summary of Veblenism has been much appreciated.

It is in just this connection, however, that the main criticism of Professor Homan's book is to be made. He tells us in his preface that, after being brought up in the faith of Marshall, he dallied a while in the camp of Veblen, and later ceased to hold any economic faith which he is interested in propagating. It may be doubted whether his last position is as different from Veblenism as he implies. Perhaps it is not so much a change in position that he has undergone as a softening of attitude, a scathing negativism giving place to a more tolerant skepticism, which is also extended to cover the more sweeping Veblenian negations themselves. Moreover, it is not clear that the change has been so complete that it might not with advantage be carried still further. The style and tone of the volume still have the tinge of a pen which has been dipped not only in "Veblenian sarcasm," but also in the deeper color of that "Hamiltonian insolence" which has been employed by a leading admirer of Mr. Veblen and former teacher of Mr. Homan as a vehicle for conveying economic sweetness and light. There is not a great deal of this in the present volume, yet too much of what there is.

In the essay dealing with the work of Professor Wesley C. Mitchell, this tone receives a further mixture of swagger and exultation, and the strain on the reader's sense of humor becomes rather severe. An example is the reference (page 391) to "the considerable number of theories propounded in explanation of cycles during the first decade of the century. These theories, by well-known and competent economists, were for the most part highly plausible, but suffered from the one major defect that they all offered different explanations." As a contribution to economic thinking this is hardly up to the passing mark. If our author had gone on to consider the precise ratio in which his hero has actually reduced the number of theories referred to, his reflections would probably have

dulled the brilliancy of the epigram. It is fairly safe to predict that all the statistical, quantitative, and fact-finding work done or to be done will and should increase — even after some eliminations — the range of theoretical reasoning to be taken into account in discussing the business cycle. Professor Homan's bright saying is a false lead for any relevant discussion of economic methodology, and illustrates the dangers of partisan negativism, and, in general, of mixing "wit and humor" with social science. Perhaps we may take the additional space to register doubt whether, from the merely personal angle, this mode of treatment is the best way to enhance the fame of an economist whose title to the first rank is beyond question.

Definite error in interpretation resulting from lack of sympathy with a thinker's own conception of his task — and more generally from the failure to think through and understand what is called the "older" economics (by those who call themselves the "younger" economists) — is found especially in the essay on John Bates Clark. Here the reviewer feels particularly free to speak, never having been an extremist in admiration of Professor Clark's statement and solution of the problems of theory. But it is surely hair-splitting, if not definite error, to say that Clark is bound to two different wage theories by his separation of capital from capital goods (page 60). And quite positively one cannot hold Clark to the view that in the state of equilibrium every unit of labor must be employed in connection with an equal quantity of capital, as Homan three times asserts (pages 59, 61, 71 n.).

More important than such errors in detail are misinterpretations of the character and significance of Clark's general position and argument. It shows lack of comprehension of the nature of equilibrium analysis to say that "by hypothesis business men are endowed with an uncanny knowledge of every source of profit" (page 84); or "that employers' omniscience must be strained in discovering the worth of the last worker" (page 62); or that "competition is relied upon to . . . bring the ship of industry into the haven of perfect rest" (page 67), and the like. The same confusion leads Professor

Homan to say (pages 84 *f.*) that in Clark's system the "forces of change" are treated as "friction," "perversions of economic law," or "disturbing influences." Clearness is impossible if forces of change are thus to be identified with conditions which prevent a constantly perfect adjustment to changed conditions. More important still, the way in which Homan separates the discussion of Clark's interest theory from his theory of wages (pages 63 *ff.*) obscures the unity of his theory of distribution, which is undoubtedly his strongest claim to having made an effective and original contribution. Clark's treatment of the factors of production, his fusion of labor and capital into homogeneous liquid funds, and his handling of the relations between capital, capital goods, and land, leave, in the mind of the present reviewer, much to be desired. But Professor Homan's discussion of Clark's treatment (especially pages 69-71) fails even more seriously to go to the heart of the matter, or to do justice to Clark's position. Finally, in the concluding summary (page 102), all the principles of the so-called static analysis seem to be regarded as relative to ephemeral "institutions." In fact, as Professor Clark contends, a great deal of it is valid for any world in which an effort is made to use limited resources intelligently in the satisfaction of wants, regardless of the nature of the resources, the wants, the technical system, or the social organization. Surely we are not to take the term "institution" so broadly as to include the general fact of economic behavior; and if we do, it may be as little ephemeral as the subject-matter of any possible science of man above the level of physiology.

On the other hand, Professor Homan "ought" to have gone beyond his brief, polite query (pages 40, 102) in regard to Professor Clark's ethical position. His statement (page 40), that the sweeping approval of private property will, "of course, throw no suspicion on the argument as to the allocation of income," is, most unfortunately, quite false to the actual workings of the human mind and to the historical facts. The confusion between the causal and the ethical relations of incomes to their sources is probably the most serious impediment to clear thinking in regard to both relations. The pro-

ductivity theory, carefully stated, is correct for the causality; for, when correctly stated, it is but a special application of the only law of causality known to science (where variability exists), namely the partial derivative. But the more one reflects about it, the more one is disposed to minimize its ethical significance. Professor Clark's identification of the two relations has done much damage to American economics, most conspicuous in the treatises on wages and the labor problem.

The essay on Marshall shows much better appreciation of the nature and use of hypothesis in reasoning, of the isolation of particular forces and tendencies for scientific description without implication of conformity to empirical reality. The point is a fundamental one, regarding which the younger economists seem determined, rather typically, to make a glory of the shame of many of the older ones. It is depressing when men of real ability talk about "facts" in a way which shows lack of comprehension of the nature of a scientific principle. The "fact" that toadstools are poison is just as true, and even more important, in a society where, because the fact is known, there are no actual deaths, and hence no statistics to prove it. For different but equally good reasons it is important to describe the workings of pure competition, regardless of the degree of purity of that which actually exists. Of course, accurate knowledge of actual processes is vital also. Controversy on the comparative worth of the two is idle and vicious. At times the tone of Homan's treatment of Marshall is unsympathetic, especially in the section (pages 269 ff.) where he elaborates an alleged "curious discrepancy between [Marshall's] professed intentions and his accomplished fact." Where he makes plain assertions, however, they are generally sound.

Apart from such occasional innuendo, the reviewer would go far in agreeing with the substance of the criticism; and this without giving ground an inch as regards the justification and necessity of the pure-theory type of treatment, in terms of a limited number of hypotheses, chosen variously with reference to various problems, and interpreted rigorously. But

Marshall did not write or propose to write a book of the pure-theory type. In the kind of book he did write, striving after realism and after direct relevance to problems of welfare, it seems a just criticism that he does not show more sense of the limitations of the utilitarian theory of life, and that he does rather treat property, contract, and competition as "laws of nature" (Homan, page 201). Here are real limitations in Marshall's insight, not merely a deliberately adopted particular method of isolating particular facts and relations for study. And it is also to be said that at one or two points Marshall has carried the notion of tendency toward an equilibrium so far as to lose touch with reality. This applies particularly to his long-run interest theory (Principles, VI, ii, 4—not mentioned specifically by Homan). Taussig's view of the long-run trend as a race between capital accumulation and other forms of progress seems to us to contain all that can rightly be said in general terms. And perhaps a similar criticism holds for the theory that wages tend to equal the cost of maintaining the supply of labor. But when Mr. Homan ends his essay on Mitchell with the assertion that the latter's work "proceeds within a general framework of ideas not consonant with the general ideas of [Marshall]," I can only register emphatic disagreement—in the face of a surmise that Professor Mitchell himself may endorse the statement.

And this disagreement is the keynote of what may be said, in conclusion, of Professor Homan's own concluding essay, which he entitles "The Present Impasse." The gist of my appraisal of his appraisal is a protest against his protest. I do not see any impasse, and do not believe there is any impasse. It seems merely distressing that economic thought has got into a mood of criticizing itself and fighting itself instead of going on with its task. The discontinuity between the "newer" and the "older" economics is imaginary, and largely a reflection of the human frailty (however important as an incentive) of overestimating one's own uniqueness and originality. The fact that a number of "younger" men—mostly, in fact, recently out of college—have discovered that

their forebears were ignorant and incompetent, and that they have to throw away all previous accomplishment and build from new beginnings, is not a phenomenon so unique in history or so important as to justify the furor which it has aroused in our meetings and journals. In the controversy over fields and methods of work, the parties are overwhelmingly right in their affirmations and wrong in their negations — a tendency in which, it is interesting to note, economists are rather the inverse of philosophers. The real need is less conflict and more coöperation between different lines of endeavor. No doubt there is room enough for disagreement in regard to methodological and conceptual problems, and jurisdictional disputes will naturally arise. But it will be found that the fact that one party is in the right does not mean that the other is in the wrong. The same material needs to be handled from different points of view. The main issue, a field for inquiry rather than for controversy, is hit off by Professor Homan in a sentence so apt and pregnant as to seem almost inspired: "Between the limits of an extreme individualistic and an extreme organismic theory of society lies a field for infinite diversity of view" (page 440). The one thing certain in advance is that the divergent views are not mutually exclusive, that both are largely in accord with facts. Social conditions and social changes are to be explained partly in terms of deliberate acts of individuals (which may be of many different kinds — coercion, persuasion, exchange), and partly in terms of "historical forces" which affect the ideas and conduct of all the members of a group more or less unconsciously.

Difficult as is the problem presented by these contrasting "theories," there are some discernible confusions in the current discussion which might be cleared up to advantage. For instance, it is blurring the fundamental issue to speak, as the institutionalists typically do and as Mr. Homan does (on page 389), of "humanly devised and humanly changeable institutions." It would conduce to clarity to reserve the word *institution* rather strictly for the unconscious-historical aspect of social movements, in *contrast* with what is humanly

devised and humanly changeable. At least we must agree on some terminological designation of this contrast.

Of course, the contrast between the two sorts of "institution" is not simple and sharp. Here both institutional and classical economists are more or less confused. Arrangements humanly devised may become social habits, and social habits may be interfered with by deliberate action — more or less effectively, and more or less "intelligently." And the manner or process of deliberate interference may, as already suggested, take numerous forms, which need to be carefully distinguished and studied. There is the process, or "technique" of "coercion" (violence), and on the other hand, there is that of discussion and appeal, establishing a self-enforcing consensus of public opinion (the social theory of anarchism). Different from both is crowd hypnotism. Somewhere between lies the process of exchange, the *quid pro quo*, or free contract. Obviously all these overlap and intermingle; obviously they are often hard to distinguish; but it is just as obvious that they differ, and that only to the extent to which we can define them can we know what we are talking about in social science.

We have a fairly well-developed theory, or "science," of the exchange relationship, in the current version of the classical-neoclassical-mathematical economics. But it rests on a hypothetical assumption of freedom which we are unable to define in empirically identifiable terms. The status of criminology shows how little we know about coercion. The theory of other deliberative social processes and of unconscious or half-conscious changes (typified by the evolution of language) is even less advanced. Unquestionably the reason for this backwardness is the difficulty of the task, and the situation should suggest caution and humility to those who would make economics much more inclusive and realistic than it now is. In the main, difficulties must be seen to be overcome, and the "younger economists" have not seemed to the present writer to have, as a group, a very clear grasp of the character of the problems they are so valiantly tilting against.

Behind these considerations, moreover, there is a genuine

"impasse" in all social "science," that is even more generally ignored. It lies in the very nature of the project of applying to human behavior the categories of positive science. Scientific thought, whether viewed in terms of "control" or of abstract "understanding" (Veblen's idle curiosity), accepts a fundamental opposition, an irreversible subject-predicate-object relationship, between the thinker and the matter studied. "He" is outside of "it," and the categories (of uniformity of sequence or stable configuration in space-time) which he applies to it do not apply to him as understander and controller. Now the historian, in his study of society, properly adopts, in the main, the same point of view; he is "on the outside looking in." But the social scientist who thinks in terms of "doing anything about" the course of events is forced to adopt the opposite point of view. For modern society is controlled, not by man from without, as physical nature is, but from within. The social scientist is at least two removes, and large ones, from the point of view of the natural scientist. The fact that human beings think and choose and enter into communication with their rulers imposes a very different technique, and a correspondingly different set of categories for scientific analysis and description. Coercion and chicane are as meaningless as discussion and co-operation in connection with the control of nature. And in addition, the control processes of a self-governing society are, in large measure, on a level above coercion and chicane.

These considerations carry one a considerable distance in solving the opposition of Professor Homan's two theories of society: the organismic theory for the historian (if he aspires to what is called scientific history), the individualistic theory for the social scientist looking toward control (so long as society is actually committed to control by ideas and values rather than chicane or violence, or perhaps drugs, or some other process). It can hardly be overemphasized that the presuppositions of these different ways of approach are in contradiction with each other. As the categories of universal inevitability which fit controlled material are intrinsically inapplicable to the controlling agent, so the notion of control

does not fit the process of coöperative quest which is democracy. Yet if the historian does not take his search for causal laws too seriously and in too literally mechanistic a sense, the two types of social science may live together amicably. The historian can always trace threads of inevitability leading up to events *afterwards*; while within the range of his failure to predict them in advance, the individualist is unhindered in assuming freedom of control; and this range will doubtless continue to be wide enough to allow the individualist room to breathe.

Here is the real theoretical impasse which economics needs to face clearly — the contradiction between control of society by itself or its members and the possibility of describing it "scientifically" in terms of universal uniformity of sequence. Most of the impasse between the "younger" and "older" economists, however, is illusory and unfortunate. The classical deductive view is admittedly in need of being supplemented by detailed factual study. But the overemphasis on facts, as if there could be facts apart from theories, merely means unconscious assumption in place of careful intelligent theorizing. Fortunately the concrete performance of the insurgents is generally much more conservative than their general claims, or economics would be threatened with costly loss of ground. In the main, and apart from the occasional swaggering, satirical tone, Professor Homan's survey is conservative of fundamentals. (Cf. pages 447, 465.) His statement (page 393) implying that facts must always come before theories takes a dangerous position, but it is not clear how far he would push the contention. The volume is able and well written. In revising it, or writing any future sequel, our main suggestion for improvement would be to leave out nearly all the "wit and humor."

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RECENT LITERATURE ON THE AUTOMOBILE INDUSTRY¹

THE automobile industry provides a fruitful field for study. Its startling growth, the important place which it fills in individual and national economy, the way in which it throws in bold relief the modern problems of production, finance, and merchandising, all combine to make it a veritable mine for the student of modern business. Nevertheless, serious-minded students of the economic system have until lately given it little attention. The three substantial studies here under review go far to fill the gap. While at points they overlap, the relative emphasis upon the various aspects of the industry differs widely. Epstein is concerned with the evolution of the industry, with emphasis upon the changes in market conditions and upon the attempts of manufacturers to adapt themselves to these changes in the market. Seltzer is concerned with the financial aspects of automobile production, and is apparently interested in the industry as it illustrates the problem of modern business in obtaining needed supplies of capital. A better case for study of this question could not have been found, for the capital invested has grown in the short period of three decades from a negligible amount to over \$2,000,000,000 in automobile factories alone, and, of course, other large sums in plants for the production of parts and materials and in distributing establishments. With the growth of the industry and evolution of the market has come the problem of financing the consumer; and it is to the recent methods employed for this purpose that Seligman addresses himself.

Epstein divides the history of the industry into two periods, the one before 1916 and the other since that date. During the period 1903 to 1916 the annual production of automo-

1. Ralph C. Epstein, *The Automobile Industry*. Chicago: A. W. Shaw Company, 1928. \$4.00.—Seltzer, *The Financial History of the American Automobile Industry*. Boston: Houghton Mifflin Company, 1928. \$3.00.—E. R. A. Seligman, *The Economics of Installment Selling*. New York: Harper & Brothers, 1928. 2 vols. \$8.00.

biles maintained a very high and almost constant rate of increase. This is well shown by the author's logarithmic curves. Another way of describing this rate of growth is to note that the annual production increased from 1904 to 1910 in the ratio of 100 to 822, and that the increase from 1910 to 1916 was as 100 to 842. At this point the rate of increase broke, and annual production from 1916 to 1922 advanced only in the ratio of 100 to 169. It would seem that there is justification for the recognition of still another turning-point in the year 1923. In contrast to the very rapid growth of the industry before 1923, annual production of passenger cars since that date has been: 1923, 3,800,000; 1924, 3,300,000; 1925, 3,900,000; 1926, 4,000,000; 1927, 3,100,000. On other bases the author further breaks the period 1903-1916 into two parts at 1910. Admitting, of course, that the selection of the precise year is more or less arbitrary, he points out that the period up to 1910 saw the industry "out of the workshop stage and successfully established as an important branch of American manufacture; the period 1911-1916 saw the comparative perfection of its product and the extension of its market to more than merely the well-to-do classes of society; while the period 1917-1926 has witnessed not so sharp a rate of increase, but nevertheless a continuous expansion of that market through steady refinement in the design and construction of the product and through important newly developed methods of market distribution."

During the early period, up to, say, 1916, the most important problems to the enterprisers themselves were those of production. An adequate history of that period would have to go much further than do any of the books under consideration into the evolution of mass production in this industry. Epstein devotes a brief chapter to this subject, and, tho apparently conceived as introductory to the discussion of the market, it is, in the present writer's judgment, one of the most interesting in the book. Incidentally, the author announces his intention to deal more fully with the history and problems of mechanical inventions and factory organization in a later work. Mass production is, of course, not peculiar

to this industry, but that it should have been developed to its present point in the manufacture of a product as intricate as the automobile is significant. As the author says, "It is something of an anomaly that the product which represents one of the mechanically finest, the most cunningly devised, and the most delicately fitted of all contrivances which man has ever made is constructed with the exercise of virtually no personal craftsmanship whatever on the part of most workers engaged in its manufacture." The possibility of the use of unskilled labor has, no doubt, facilitated the rapid growth of production, for workers can be easily transferred from agriculture and other industries; and the high wages made possible by the demand for the product and by the effectiveness of manufacture has provided the attractive power necessary to effect this transfer. These characteristics of the industry probably have also contributed to the success of the manufacturers' opposition to the introduction of labor unions.

Viewed internationally, the industry enjoys a marked comparative advantage. It has no need for tariff protection; on the contrary, it would seem that it has everything to gain by a moderation of tariffs, which would indirectly facilitate the expansion of its own exports. The significance of the tariff question in the future of this business has not been fully appreciated, perhaps because of the rapid expansion which until recently has characterized the domestic market. When the importance of the foreign market comes to be more forcibly impressed upon the leaders of the industry, may we not hope to see here the development of an international point of view, which is notably lacking in most American industries? Advocates of free trade have centered their attention upon, and directed their arguments too exclusively to, consumers, who are notoriously careless of their own interests. Surely as logical and perhaps a more effective argument for a general lowering of tariffs, both here and abroad, could be made to producers like the automobile manufacturers, whose competitive position is such that they have nothing to fear from foreign competition and whose real international interest is in fostering exports.

In spite of the rapid growth of the market and the increase in annual production, there was considerable uncertainty for individual manufacturers. The author reports that of 181 companies which were engaged in the manufacture of automobiles at some time in the past twenty-four years but 44 now remain, and of these only 11 have been in business throughout the period. Of this group 28 per cent remained in business three years or less and 49 per cent six years or less. The relatively high mortality in an industry which, as a whole, has enjoyed such rapid and conspicuous progress should serve to console those who are given to bemoaning the fact that they did not invest capital in the early automobile industry. Even in an industry as prosperous as this one the conspicuously successful companies form but a small proportion of the total.

The causes of high mortality were, no doubt, various. An interesting one suggested by the author is the difficulty which manufacturers faced in determining a proper production policy. Great economies were to be gained on the side of production by producing a simple and standardized line of cars in large quantities and in avoiding changes in model. On the other hand, during the early period very frequent and often radical improvements were being introduced by the engineers. Further, since the automobile is in part a style product, there was the demand of the consumers, latent or active, for changes in external design. The manufacturer had always before him, therefore, the problem of maintaining a wise compromise between these two forces, and it is not surprising that sooner or later most of them erred. One of the weaknesses of huge mass production is its inflexibility. The recent experiences of the Ford Motor Company provide a specific example of the difficulty of adapting mass production with automatic machinery to the manufacture of a rapidly changing product. This company more than any other in the industry has held consistently to the policy of producing a simplified line in quantities, thereby reducing costs and prices, and its success in this policy has become a byword. The

company produced the first model T in 1908, and the fifteen-millionth of this model in 1927. Comparatively few and minor changes were made in the whole period, which saw many and radical improvements in both the internal and external characteristics of automobiles. This uniformity was, of course, a major factor in the phenomenal success of the company. Finally, however, sales became more and more difficult to make. Potential consumers were turning to used cars of the higher-price classes, and to the comparable cars of competitors even at somewhat higher prices. At last a change was made, but apparently with difficulty and at great expense. How much of this difficulty was due to personalities or to other factors peculiar to this enterprise it is difficult to say, but to a large extent it was probably due to the very system of production which was at the same time the company's source of strength. The problem in modern industry of striking the proper balance between production policies and market requirements is well described by Paul M. Mazur, in his recent book on *American Prosperity*.

Epstein, in dealing with the development of the market, centers attention upon the relative demand for cars of the various-price classes. Comparatively little attention is given to the growth of the replacement market, a phenomenon which for an understanding of the recent past and a prediction of the future seems to the present writer to be a more fruitful line of inquiry. The automobile has established itself so securely in the American standard of living that few persons who have once owned a car are willing to be without one. Since we are approaching a condition in which most families have an automobile, it is probable that the largest single source of demand for automobiles will be for replacement of cars which are eliminated from use. This replacement demand is large; it amounted to about one half the domestic sales of automobiles in 1926, the last year for which computation can be made, and it is destined to play a still greater rôle. The replacement demand has the peculiar feature that it comes to the market in an almost automatic manner and in fairly predictable volume. The prominence of this source of

demand is a distinguishing mark of a mature industry. Its development has a more or less direct bearing upon the market for used cars, the new methods of finance, the transfer of demand from one price class to another, the proportion of the country's purchasing power devoted to buying automobiles, and the utilization of the present plant capacity. In other words, it is the starting point for an analysis of the future of the industry.

Seltzer, in the *Financial History of the Automobile Industry*, after discussing the development of the industry, treats in a masterful way the financial history of the Ford Company and of the General Motors Corporation, and more briefly of other important producers, concluding with a summary which relates the preceding history to the theory of capital and its utilization. The outstanding conclusion is that to a very large extent the capital needs of the industry have been met from earnings and without recourse to outside investors. In the case of the Ford Company virtually all of the \$694,000,000 of tangible invested capital (1926) has been provided in this way. The same is true of a number of other companies which provide less striking examples only because of the smaller amounts involved. For example, the Reo Company had at the end of 1926, \$27,900,000 of tangible investment and had a record of reinvested profits of \$27,700,000. The corresponding figures for the Nash Company are \$38,500,000 and \$32,200,000; for Hudson, \$43,000,000 and \$42,700,000; for Packard, \$46,300,000 and \$45,900,000. General Motors and Studebaker are in this respect in a different group. General Motors' tangible capital was \$593,000,000 and reinvested profits \$306,000,000; Studebaker showed \$99,200,000 and \$71,800,000. The aggregate sums for these companies showed the ratio of reinvested profits to tangible capital at the end of 1926 to be 79.79 per cent. Certain detailed qualifications and explanations of these data need not be gone into here.

Some general explanations of the relatively slight reliance upon outside capital may be suggested. With the start of some of the older companies, and to only a less degree with the later companies, capital was not readily available. In-

vestors were naturally skeptical and wary. The failure record noted above indicates that this caution was not ill founded; the huge profits of the successful producers were not visualized even by the enthusiastic promoters. Fortunately there were a number of industries, such as carriage factories, machine shops, and bicycle factories, already established and available for the manufacture of the essential parts of the new product, and at the outset the new industry relied upon these sources almost entirely. The manufacture of automobiles consisted of designing the product and assembling its parts. The assembling was a relatively simple process, and in the case of the Ford Company, for example, was originally carried on in rented quarters. Parts were bought from the established sources on credit. Also on the side of distribution assistance was received. From the outset, the industry maintained a policy of selling for cash (a policy which is still generally continued so far as the manufacturer himself is concerned). More than that, distributors submitted orders in advance of manufacture and frequently made a substantial advance deposit. By a wise adjustment of the production schedule it was possible to operate with very little owned capital. Mr. Roy D. Chapin is quoted by Seltzer (page 21) as follows: "Dealers' deposits often paid half the sum necessary to bring out a full year's production; and if the assembling were efficiently directed, drafts against the finished cars could be cashed as rapidly as the bills from parts-makers came in."

There was, therefore, a considerable amount of capital owned by parts-makers and distributors, which was available to the automobile producers tho not owned by them. The diversion of these resources to the new industry (and to a less degree the process has continued as the industry has grown) represents one form of mobility of capital which is important in an industrial society.

An enormous proportion of this country's capital is invested in mines, railroads, iron and steel manufacture, textile mills, and other primary industries, as well as in general merchandising and financial establishments, the products and services of which are at the command of all profitable industries. The capital so invested is, in effect,

constantly mobile among the various products employing its services. The proportion of such capital that may be diverted to any new good is extremely elastic; it may be increased readily and sharply without formal change of ownership, and such indirect diversion of capital does not require a movement of liquid funds guided by organized financial institutions. Large profits serve in this connection to enable new or growing industries to outbid competitors for the services of capital equipment owned by others, and thus, in effect, though not on the surface, to mobilize such capital for new purposes. (Seltzer, page 269.)

Sometimes a true diversion of capital from other lines results, and sometimes merely the more complete utilization of existing equipment. The recent introduction of the radio drew upon electric light plants for tubes, on furniture plants for cabinets, and otherwise utilized to a large extent the established industries.

From the start the industry was profitable and this, of course, made possible the reinvestment of a large part of earnings not only by the manufacturers themselves but also by parts-makers and distributors. Here is an outstanding example of corporate savings. That it is only a striking example of a general tendency is indicated by the report that in 1922 only 50 per cent of the net book profits of American corporations was distributed in dividends. However, it should be noted that we have been considering the automobile industry in its early stages, that it has been an exceptionally profitable industry, and that its needs of expansion have been very great. What will happen as we go further into a stabilized market with presumably more moderate profits is not so clear. And these special features are found, even tho to less extent, in the general situation. We have in recent years experienced an unusual development of manufacturing, which has no doubt been a factor in the growth of this method of savings. We are not yet in a position to judge its probable permanence.

With the evolution of the automobile market has come an increased pressure upon the existing sources of demand, resulting in more and more attention to the process of distribution. The rôle of advertising is enhanced, more attention is given to salesmanship and to dealer organizations, liberal allowances

are made on used cars traded in, and every known device for facilitating the sale of automobiles is employed. Among these devices should be classed installment selling. Seligman in the *Economics of Installment Selling* proceeds to examine the nature and consequences of this device by statistical analysis and in the light of economic theory.

On nearly every count he gives the new system a clean bill of health. For example, he concludes that the previous estimates of the proportion of automobiles sold on this plan are excessive — instead of being 76 per cent of all sales, it is nearer to 59 per cent. For retail trade generally the volume of installment sales is estimated at about \$4,500,000,000 out of an annual total of retail sales of about \$38,000,000,000. On the score of security of credit extensions for this purpose, he recognizes a danger in too liberal terms, but believes that with conservative terms there is no need for alarm. The loss ratio of the General Motors Acceptance Corporation has declined from .910 per cent in 1920 to .035 per cent in 1926. The ordinary terms in the automobile trade are one third down, with the balance payable in twelve monthly installments. Any relaxation of these terms is dangerous, as was shown by experience a few years ago when a tendency in this direction developed. There has been since 1924 a return by most companies, and in most of the country, to more conservative practice. The relation of risk to the size of the initial payment is shown by the fact that in 1925 the number of repossessions where the terms called for one third down was 1.75 per cent of cars thus sold; where they called for one fourth, the repossessions were 3.8 per cent; and where they were 24 per cent or less, repossessions were 11 per cent.

When he comes to the effect of installment selling upon the consumer, the author becomes eloquent. It enables the consumer to buy durable goods of high unit value instead of low-priced ephemeral goods. It encourages habits of thrift and will be likely actually to increase savings.

If the augmented satisfactions of a purely psychical nature, conferred upon an individual by the acquisition of a commodity, would otherwise not have existed, is it not entirely possible — nay, even likely — that these augmented satisfactions will be brought into

such relations with his productive capacity as to increase his efficiency, and will not the psychic income in this way be after all transmuted into a money income? In other words, will not the possession of the durable commodity actually increase the ability of the individual to make renewed and augmented exertions? Thus from both points of view, that of desire to work and that of capacity to work, installment selling, when used with the right kind of commodity, is likely to increase and not to decrease savings. (Seligman, I, 277.)

Apparently the time-honored maxim of "pay as you go" has outworn its usefulness. But no; installment buying really involves paying as you go, for in truth the article is not ordinarily worn out before it is paid for. The goods to which installment selling is applicable are durable goods, and in conservative practice the payments keep well ahead of the depreciation.

There is, of course, much of truth in all this. Yet in spite of the author's protestations and qualifications one cannot escape the feeling that the implications are those of a spend-thrift doctrine. For, in fact, installment selling in the automobile market is not used solely, or, one suspects, even mainly, in the purchase of cars by those who are now without means of transportation, but very often by those who would like a better car than they now have. Even with first buyers of cars the effect is often to facilitate the purchase of a car of higher price than they would otherwise buy. For example, manufacturers of cars selling above \$2500 announce that for those who prefer to pay "from income rather than from capital" the convenience of monthly payments is available. Further, it is suggested that the buyer's present car will be accepted as the down payment. In spite of Professor Seligman's scientific impartiality, he has in fact done valiant service to the high-pressure salesman, who, it would seem to many of us, does not greatly deserve aid from the economists.

Professor Seligman makes a good case for installment selling. The present criticism is that he overdoes the defense. Not satisfied with showing that from a banker's point of view the plan may be safe, and that, as compared with other forms of consumers' credit, it has several advantages, he proceeds to argue that the old distinction between consumers'

credit and producers' credit has no significance. The psychic income made possible by the one, he tells us, is as important as the money income resulting from the other. But the obvious objection is that, important as psychic income may be, it is not readily applied to repayment of the loan. To this the reply is made that "The putative strength of the objection resides, not in the fact that the business man has to make no effort to repay the loan while the consumers make such effort, but in the fact that the entrepreneur makes these efforts in the course of his everyday business, while for the consumer such an effort would be something unusual and not hitherto attempted." He then denies the validity of the objection as thus interpreted. But is this a fair statement of the point? If a farmer borrows money to buy a tractor, he will, assuming sound judgment, produce enough more with the tractor to repay the loan and have a surplus left over, which, if he wishes, can be saved. The capital of the community has not been reduced; it may have been augmented. When he buys a passenger car, his own pleasure and that of his family may be enhanced; but the purchase itself does not facilitate the repayment of the loan, and, more important, the effect upon the capital supply of the community is to divert the amount loaned to him, during the life of the loan, from potential use in production. If, as Professor Seligman concludes, there is about \$2,000,000,000 of installment paper outstanding,—and presumably as this paper is retired more takes its place,—if this is true, it would seem that there is a diversion of \$2,000,000,000 of loanable funds.

We have always supposed that this country has reached its high state of productivity and its correspondingly high level of wages and standard of living by the use in effective forms of large sums of capital per worker. But now we are told that the goal of an adequate supply of effective equipment is won.

As a consequence of the revolution in the technique of production that was [in the beginning of the nineteenth century] rapidly spreading from one industry to another, there was indeed an urgent need to enhance the capital of the community. But what was true then is not true now. The material basis of our machine civilization,

built up by the energy of the past generation, is largely completed. Savings for the maintenance and expansion of our industrial machinery are now provided, to a much larger extent than before, by business enterprises in the course of their daily operations. So far as industry is concerned, the rôle of individual savings is not the same. It is familiar that, in the United States, for instance, most of the savings are afforded by the activities of the business corporations. On the other hand, the mechanical civilization, under the conditions of which we have been living for a century or more, is providing us with an enormous surplus of material goods. It is no longer necessary for the individual to skimp and save, to look with apprehension to the future, and to endeavor at all costs to make provision for the days to come. (Seligman, I, 169.)

There seem to be involved here two propositions: first, that we are now amply supplied with capital; second, that any increases which may be needed in the future will be supplied by corporate savings. The latter proposition places more reliance upon the future of corporate savings than to many would seem justified. As to the need for capital, that seems to be as capable of expansion as are human wants. Surely we may expect inventors to continue to devise new and expansive forms for all the capital which is likely to be provided in the predictable future. And the number of bond circulars which come to most of those who might conceivably be regarded as potential investors suggests that not all legitimate needs of the present have been met.

It is, of course, the part of wisdom for a community, as for an individual, to strike a reasonable compromise between saving and spending. It is conceivable that a community might exalt thrift to such a point that it would cease to attain its real end. Then there might arise a prophet to point the way back to the more easy life. Have we reached such a stage, and must the economist assume this new rôle?

The two volumes provide a remarkable supply of original factual material on this problem. The study as a whole makes a good case for the new form of credit. Its weakness, if any, is that it overstates the claims to virtue.

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THEORIES OF THE LABOR MOVEMENT, AS SET FORTH IN RECENT LITERATURE¹

Recently published books dealing with organized labor devote increasing attention to an attempt to formulate some adequate theory of the labor movement. Apparently the familiar explanation for the origin of trade unionism in inequality of bargaining power does not, by itself, satisfy theoretically inclined students. They desire to dig deeper, finding not only the origins but the ultimate objectives, if any, toward which the labor movement is headed. Two of the five volumes under examination belong especially in this category: *American Labor Dynamics*, by J. B. S. Hardman and Associates, and *A Theory of the Labor Movement*, by Selig Perlman. The other books to which reference will be made are concerned with more concrete subjects, but each author reveals throughout an implied theory with respect to the ultimate nature of the labor movement.

Unlike some editors, Mr. Hardman, also editor of *The Advance*, official journal of the Amalgamated Clothing Workers of America, does not shift practically the entire burden of actual composition to his thirty-one associates who collaborated in the production of *American Labor Dynamics*. Approximately one fourth is his own contribution, and, it may be added without reflecting on the others represented, the quality of the work by no means suffers in consequence of the leading rôle assumed by the editor. Numerous subjects are discussed, such as organizing problems in the coal, textile and building-construction industries; the company union; labor

1. *American Labor Dynamics*, by J. B. S. Hardman and Associates. New York: Harcourt, Brace and Company, 1928; pp. xv, 432.

A Theory of the Labor Movement, by Selig Perlman. New York: The Macmillan Company, 1928; pp. x, 321.

Left Wing Unionism, by David J. Saposs. New York: International Publishers, 1926; pp. 192.

Bolshevism in American Unions, by John A. Dyche. New York: Boni and Liveright, 1926; pp. xiv, 224.

The Americanization of Labor, by Robert W. Dunn. New York: International Publishers, 1927; pp. 272.

banking; ownership of stock by employees, and recent developments in income distribution; the problem of leadership; "the employers' welfare offensive" against the unions; "the mind of labor"; the proper scope of politics in the labor movement; the status of organized labor before the courts. The treatment, on the whole, is realistic and free from dogmatism. There are of course some gaps, in spite of (and possibly in part because of) the array of talent. Little attention is given to the problems for organized labor brought about by the increasing mechanization of industry or to those which result from the trustification of important key industries. Possibly the material of most immediate practical value is contained in Part II, "Problems of a Labor Union Somewhere in the United States." Here, under a not too-deceptive change of names and places, Mr. Hardman relates the procedure which the Amalgamated Clothing Workers have found efficacious in solving some of their problems. The "hypothetical cases" which he gives should be of assistance, not only as a means of understanding the "inside workings" of a successful union, but also in informing leaders in certain unions, not so successful as the Amalgamated, about the "sophisticated" methods which the Amalgamated utilizes.

A primary concern, as previously indicated, of Hardman and some of his associates, is the formulation of a theory of the labor movement. The following observations may be made upon the point of view dominant among the contributors: 1. There is a disposition to assume that labor organizations have as a major objective the attainment of a degree of "power" or "control" in industry — that "pure and simple" unionism which concerns itself only with immediate "bread and butter" problems is not enough. No effort is made, however, to explain definitely how much "power" is desired, or, being attained, how it is to be organized. 2. The American Federation of Labor, in the light of its present policies, is viewed as an inadequate, if not an outworn, instrument for the attainment of "power." But while there is a general disposition to be impatient with the Federation, *Realpolitik* seems to dictate a course of action directed to the transfor-

mation rather than to the elimination of the Federation. 3. Doctrinaire radicalism, such as that of William Z. Foster, with his communistic invectives against "class collaboration," receives no support. These writers are trying desperately to be "practical"; while preachments that labor and capital should be "partners" would leave most of them cold, nearly all, it would appear, regard the communism of Foster as unsophisticated and harmful. The dominant point of view is one identifiable with the conservative "left." 4. There is evident a fairly general conviction that labor should participate independently in politics, with at least a partial realization of the difficulty of achieving success on anything approaching the desired scale.

One or two of these points deserve further amplification. In regard to labor's desire for "power," trade unions are classified by Hardman into two types (page 112): one concerns itself only with "immediates," while the other in addition concerns itself with "ultimates." "Trade unions of the first group may be described as *organizations*. Those of the other kind constitute the *movement*. The trade unions of the one type are static and have no bearing on the power-relation of the industrial order. Unionism of the second category is dynamic and leads towards a redistribution of power, and under certain conditions may prove a factor in the transfer of social power to the workers. However, no Chinese wall exists between trade unions of the two types" (author's italics). In general, Mr. Hardman appears not to approve of such old-line leaders as Strasser and Gompers, who contended that organized labor is not concerned with "ultimates" but only with "here and now" problems of wages, hours and working conditions.² But he adds (page 101): "However, it

2. To interpret the position of Gompers, Mr. Hardman quotes from the examination of Gompers by Morris Hillquit before the United States Industrial Relations Commission in 1914. The Commission permitted the novel arrangement of having the leading representative of trade unionism and a prominent advocate of Socialism cross-examine each other, on the theory that by this method the correct position of each would be more clearly revealed in regard to the respective movements they represented. Mr. Hardman fails to quote certain exchanges which

is fair to assume that the practical leaders' insistence on their articles of no creed has represented a studied policy rather than a deeply seated conviction." And on this matter William Z. Foster in *The Great Steel Strike* is quoted approvingly. Foster wrote: "Their [trade unions'] program is directly anti-capitalistic. . . . They . . . have more or less instinctively surrounded themselves with a sort of camouflage or protective coloring, designed to disguise the movement and thus to pacify and disarm the opposition."³ The mistake of Foster, according to Hardman, consists of his failure to continue to formulate his policy on this interpretation of so-called "conservative" unionism. Had he so continued, his efforts would not now be absorbed in an attempt to wreck the "class-colaborating" unions in the United States.

Mr. Hardman and others of his associates seem to fear that the American Federation of Labor is in danger of degenerating into mere "organizations" having no concern over "ultimates," and therefore that it will never be a "movement." But, one gathers, there is nevertheless hope that, either unconsciously or by a process of dissembling, the movement will thrive. Mr. Arthur W. Calhoun at first seems to disagree. In the chapter by him, which is mainly given over to a discussion of the possibilities involved in the Baltimore and Ohio plan of union-management coöperation, he states (page 322): "President Green makes it perfectly clear that he does not expect that the American Federation of Labor shall be a labor movement. It suffices that it should be a business movement, selling labor power as if it were selling potatoes.

might give a somewhat different impression concerning Gompers's position; for example, the following:

"MR. HILLQUIT: My question is, Will this effort of . . . organized labor ever stop until it has the full reward of its labor?"

"MR. GOMPERS: It won't stop at all."

"MR. HILLQUIT: Until such time —"

"MR. GOMPERS (*interrupting*): Not until any time. . . . In other words, we go further than you—you have an end; we have not."

It should be added that Gompers indicated his belief in a return to private capital on "honest investment." (See Report of United States Commission on Industrial Relations, ii, 1528-1534.)

3. This view is set forth elsewhere at some length by Frank Tannenbaum in *The Labor Movement* (1921); see particularly chap. 9.

Handling the commodity labor does not make a labor movement. A labor movement is one that challenges the capitalist system to its foundations." But a few pages farther we find that Mr. Calhoun's examination of the Baltimore and Ohio plan has brought him to this: "Once collective bargaining gets going there can be no limit to the ground it will cover." While Mr. Calhoun is quite disillusioned about the purposes of the leaders who preside over what is still the largest component of organized labor in the country, he somehow continues to hold tenaciously to his preconceptions concerning the ultimate goal of collective bargaining.⁴

Perhaps Professor Perlman's *A Theory of the Labor Movement* may assist those who are impatient for more rapid progress of the "movement" to a clearer understanding of the obstacles it faces in the American scene — and why, incidentally, men like President Green pursue their present policies. The title of Professor Perlman's book does not disclose that 225 pages of historical material precede the 82 which comprise Part II, "*A Theory of the Labor Movement*." Throughout the historical account, however, there runs an analysis in terms of the theory. The author's respect for history as a guide to correct conclusions appears to be different from that of Mr. Hardman, whose historical background,

4. A fellow contributor may be of service in solving Mr. Calhoun's dilemma. A. J. Muste in his worth-while chapter on "Factions in Trade Unions," writes (page 334): "On the one hand the union accepts the existing order of business, and then it bargains with the employer. . . . Thus it is a conservative force; it is itself a vested interest; it has a stake in the existing order. On the other hand, the union flatly refuses to accept the existing order and is a constant threat to it. It stands for the closed shop, but with the closed shop what becomes of freedom of contract? If it really has the power, is there any reason to think that its demands for wages — 'more and more and more' — will stop short of eliminating speculative profits altogether? Will not the members, landless, tool-less, status-less, insist on using the union to attain status, citizenship, control in industry? From this standpoint the union is of course revolutionary." The same view is expressed by the late Professor Solomon Blum in his text, *Labor Economics*, p. 328. On the other hand, Professor Warren B. Catlin in *The Labor Problem* maintains (p. 240) that unionism is primarily of a "defensive character": "It is essentially conservative in its tendency, change-resisting rather than change-producing."

under the heading of "The Decade in Retrospect," is confined to the ten years following the war. Mr. Perlman complains that "the majority of American intellectuals abhor labor history even today"; and, in so far as the materials permit, he delves into the origins and development of employer-employee relationships, not only for the United States, but also for Russia, Germany, and England.

Superficially, it might appear that Perlman's greater emphasis on history would not necessarily lead to a different interpretation of the nature of the labor movement from that of Hardman and some of his associates. But Perlman's way of reading history does lead to substantial differences. In regard to the United States, he points to the middle-class psychology of "abundance of opportunity," which for many years has dominated the point of view of large numbers of "manualists" as well as that of other groups. Such a psychology produces a type of individualism which stands in the way of establishing cohesive labor unions, not to speak of the development of a "labor movement" in Hardman's meaning of the term. And even when the "optimistic abundance psychology" (which is natural to the business class) due to a developing awareness of "limited opportunity" is supplanted among "manualists" by a "pessimistic scarcity psychology," the consequent group action among laborers is not motivated by such a grandiose objective as "control" over the means of production and distribution. Rather, the kind of control or power sought after is the control over "limited job opportunities" through the medium of "working rules." This kind of control, it is true, carries a corresponding limitation over the property rights of the employer. But working rules imposed upon the employer which do nothing more than modify greatly his control over such matters as the right to hire and fire whom he pleases and the right to introduce machinery if and when he sees fit, are not of a character calculated to revolutionize the system of property ownership.⁵

Such working rules in their limited application, it seems to

5. Doubtless Mr. Hardman looks upon such working rules as an important "entering wedge" which prepares the way for the wider and more basic control which he envisages. He writes: "Asked 'power for

the reviewer, constitute more nearly "joint control" with the employer than absolute "power" exercised by organized labor over him. Even where, as in the case of the International Typographical Union, cited by Perlman, there are important rules laid down by the union which were never arrived at by collective bargaining and the arbitration of which the union will not permit, the practical scope of the rules is circumscribed by virtue of the employer's nearly exclusive ownership of the basic forms of property. The resultant "negative control," if one may so describe it, exercised by the employer over union working rules, is not likely to impress the employer as "control" in any sense. But a realistic view calls for recognition that "business" or "job control" unionism is compelled to take cognizance of the fact that its rules dare not go beyond what the "traffic will bear"—that is, go so far as to remove from the employer the incentive to remain in business. Thus, the dictates of necessity introduce a certain "reasonableness" into the working rules of a strong union, even when the employer has not participated in the discussions preceding their promulgation. At least, this must be the situation unless and until the union is prepared to take over *all* of the power and functions now exercised by existing ownership.

With any attempt to bring about such a consummation, Perlman finds labor in the United States totally unconcerned. It affords no evidence to support the Marxian thesis which looks upon "labor as an abstract 'mass' in the grip of an abstract 'force.'" "Organic labor's own theory" of its purpose is limited to job control through working rules. To achieve this, a solidarity of "wage conscious" rather than

what? safe and sane American trade unionists will not hesitate to answer: power for bargaining only. But the logic of social power is more sophisticated than the reasoning power of safe and sane trade unionists. Once achieved, power creates its own 'what.' It is forced to expand both by resisting and by checking the drives of opponents as well as by its own urges. It cannot stand still. It seeks to grow at the expense of environing social groups or classes. Thus, driven by the logic of its own development, trade unionism proceeds from the prosecution of its immediate objectives to positions from which it menaces, if it does not directly attack, the balance of social power which is the foundation of the present social order." (Hardman, p. 109).

"class conscious" labor is required. Labor's objective when properly understood, in Perlman's view, should be sufficient to satisfy anybody. He writes (pages 274, 275):

To many, of course, any "ideology" whatsoever in a union which is merely "business" and which avowedly limits its objectives to a mere control of jobs, is entirely and definitely precluded. However, . . . if, by naming the predominant type of American unionism "business unionism," it was meant to bring out that it had no "ideology," then the name was clearly a misnomer. The difficulty arises from a disposition to class as idealistic solely the professions of idealistic aims, — socialism, anarchism, and the like, — but to overlook the unselfconscious idealism in the daily practice of unionism. In truth . . . even "business unionism" shows idealism both in aim and in method; only it does so in the thoroly unsophisticated way of "Tom, Dick and Harry idealism." All unions sooner or later stress "shop rights," which, to the workingman at the bench, are identical with "liberty" itself, since, thanks to them, he has no need to kowtow to foreman or boss, as the price of holding his job. And, after all, is not this sort of liberty the only sort which reaches the workman directly and with certainty and that can never get lost *en route*, like the "broader" liberty promised by socialism?⁶

The intellectuals who have theorized about the wage-earning class and have attempted to "lead" it in the direction of the complete social power they prescribe for the labor movement do not stand too high in the opinion of Perlman. In most of Europe, particularly in Germany, he finds that for many years the intellectuals succeeded in persuading labor to adopt their ideology, the main elements of which are "the class struggle," the ultimate victory of labor in "the struggle," and, to bring about the victory, the utilization of the workers' political power. As a corollary, this ideology looked upon the absorption of unions with such "petty" matters as wages, hours, insurance, and shop rules, as essentially "selfish" and sharply limited in "vision." Organized labor was chiefly useful as a means to hasten the conquest of political power, which, having been attained, would permit the revolutionary reorganization, on a basis of "service," of

6. The author adds penetratingly in a footnote: "Frequently workmen are willing to resign themselves to 'boss control' in their union for the sake of their liberty in the shop. . . . They are willing to sacrifice their 'political' liberty in the union so long as they have 'economic' liberty on the job."

control over economic processes. This abstract view belittled, on the one hand, the capitalists' "will to power," and, on the other, the fact that "Tom, Dick and Harry," even when they seemingly subscribe to a philosophy of "ultimates," are primarily motivated by immediate considerations relating to their jobs. In Germany it is the intellectuals' inability to comprehend correctly the tenacious "staying qualities" of the business class and the essential lack of concern on the part of the wage earners that explains the absence of any fundamental alterations in the relations between capital and labor during the period following the war and the revolution. In Russia, because of peculiar historical conditions, there was no business class possessed of a strong "will to power." This, coupled with the peasants' desire for land, explains the ability of the Bolsheviki to seize "power." The combination of circumstances which prevailed in Russia is not to be found in any other important nation.

In view of the failure in Europe of the intellectuals' ideology to inaugurate through politics the promised fundamental changes on behalf of labor, Perlman sees no justification for labor in the United States greatly modifying its policy in regard to political action. Even in Germany, the unions are reversing their former position of subordination to the Social Democratic Party, and are asserting their own ideology, which, as everywhere with "organic labor," is mainly interested in job control. Especially is labor's indifference to the formation of its "own party" justified in this country because of its relative numerical weakness and the middle-class psychology of "abundance of opportunity" which continues to dominate not a few union members. There should be food for thought among the politically-minded intellectuals in the United States who complain because the A. F. of L. does not join in the formation of an independent labor party, "like labor has in England," in the fact that German labor is increasingly placing its main reliance on the customary "economic" methods fostered by unions, as distinguished from the more spectacular program and procedure which politics affords.

In fact, Perlman makes out a case for the superior efficacy for labor in the United States of the "bloc" technique of poli-

tical strategy permitted by the two-party system. He argues that our "checks and balances" are in effect the political "pluralism" the theory of which has enamored so many intellectuals during recent years. Evidently our governmental arrangements do not embody the kind of pluralism which such a leading exponent of that system as Professor Harold J. Laski has in mind.⁷ But Perlman appears to be correct in his contention that our "checks and balances" make our political agencies inherently inadequate as instruments of economic reform and that (page 170) "this situation, more than anything else," explains "the stubborn 'economism' of the American Federation of Labor." Moreover, "the American situation has at least this merit . . . that it does not disguise the weakness of government, in contrast with Europe, where labor, deluded by the theoretical 'omnicompetence' of the state over industry, centered on capturing that instrument, but found it wanting in actual use." The last statement may be exaggerated, but even so the soundness of Perlman's view, that American labor operating as a distinct national party stands little chance to make substantial gains, is not invalidated. In fact, until the "economic front" of trade unionism is considerably enlarged and more firmly entrenched, grave danger exists of dissipating the gains heretofore achieved, in consequence of following the will-o'-the wisp of politics. On this whole question, the leadership of the American Federation of Labor appears to be wiser in its reading of history and better acquainted with the realities of the present situation than some of its intellectualist critics. Professor Perlman, through the cogency of his reasoning and the realism of his interpretation, supplies the so-called "conservative" American unions with a justification for the major policies they pursue.⁸

7. See his article, "The American Political System," *Harper's Magazine*, June, 1928.

8. At the same time, he does not believe that the unions can afford to be inactive or complacent in the face of their present lack of growth, which he ascribes, not to company unions or employer welfare work, but to gains in real wages in recent years and to the increasingly prevalent centralized employment departments. The latter receive special emphasis, for Perlman views such departments as an employer device for

This opinion is strengthened by a reading of *Left Wing Unionism*, by David J. Saposs, altho, unlike Perlman, Saposs appears to find some natural basis, entirely aside from the machinations of intellectuals, for the existence of radical unionism. It is perhaps worth recalling that both Saposs and Perlman were among those who collaborated with Professor John R. Commons in the production of *The History of Labour in the United States*. History, it is not surprising to discover, with Saposs as with Perlman assumes great importance. Also, it may be added without reflecting upon the originality of either writer, both clearly disclose the impress on their thought of tutelage under Professor Commons.

The left-wing activities of various types of Socialists, the I.W.W. and the communists, are examined by Saposs. Their efforts have been directed, immediately, toward transforming or supplanting the A. F. of L. and other conservative types of unionism, and ultimately, toward the creation of a "movement" which would exercise exclusive "power" over the means of production and distribution. These left-wing movements, in order to obtain the "power" desired, depending upon their understanding of practical exigencies, have variously espoused the methods of "dual unionism" and "boring from within." However, dual unionism manifests itself in two basic forms, "ideologic" and "opportunistic." The latter type may be due to different local unions originating independently and later forming distinct nationals which claim the same jurisdiction; or they may originate in leaders' factional fights which result in the splitting off and formation of rival bodies. In either case, ideology forms no part in the formation of the "opportunistic" dual union.

bestowing a large measure of job protection which, under decentralized hiring and firing by the foreman, only the union can supply. It is of interest to discover that the author regards the "new" (and to some extent "left") unionism of the needle trades as likely to furnish the tactics which will revive the whole labor movement and rescue it from its present psychology of "defeatism." This compliment to the Amalgamated Clothing Workers — for it comes largely to that — should please Mr. Hardman. But Professor Perlman would still insist that the rank and file in the Amalgamated, like all "organic labor," have no impelling desire for power other than control over their jobs.

"Ideologic" unionism, whether it attempts to establish a dual organization or to "bore from within," is primarily propagandist rather than bargaining in its method, and on this account tends to lack stability. Dramatic leaders like Daniel De Leon, "Bill" Haywood, and William Z. Foster, by their superior propaganda methods, can catch the imagination and gain the adherence of the immigrant, the casual and the unskilled. The failure of many stable business unions to make headway among the immigrants and the unskilled is ascribed to the persuasive methods of the radical ideologists, who are able, either before or after the business unionist presents his program to these groups, to convert them by high-sounding promises and belligerent cries against capitalism. In comparison, the business unionist's unspectacular program of gradual improvement in hours and wages holds little charm for the considerable number whose hours and wages are at an exceedingly low standard. And since business union experience has so often been that its organization campaigns have amounted merely to a method of recruiting membership for dual radical unions, it is understandable why conservative leadership has largely surrendered this field to the radicals. But the radicals in their turn, because of their unconcern over "immediates" having to do with shop conditions, seldom succeed in maintaining permanency of organization. "It is a clear instance of the case in which a certain type of leadership senses conditions accurately but muffs the opportunity by impracticable strategy" (page 96). However much the worst-circumstanced wage earners may be initially aroused by radical slogans, in the last analysis only tangible gains in living standards will ensure their continued support, in common with that of other workers — a conclusion substantiating Perlman's theory concerning the nature of "organic labor's" ideology.

None the less, Saposs points to the fact that the coal miners and needle-trades unions have demonstrated marked success in establishing permanent organization among immigrants and those lacking in skill. A large proportion of the members subscribe to the socialistic ideology and, at the same time, have developed an advanced technique to extract from the

employer immediate mundane improvements in wages and hours, together with the imposition of "working rules" designed to guarantee standards.

One may note, however, in the case of such a powerful union as the Amalgamated Clothing Workers, that contemporaneously with its growth in strength, the ideology of complete working-class ownership and control has receded somewhat into the background. This may not signify that the goal has disappeared from view, but as the Amalgamated has waxed strong, obtained a stake in industry and assumed institutional aspects, in its practical manifestations it has more and more taken on the appearance of "business" unionism. Even tho the Amalgamated is more "sophisticated" in its methods and fortunate in its leadership than most business unions, the fact remains that its leadership is no longer vociferous in its adherence to the "class struggle" doctrine and in its advocacy of the "coöperative commonwealth." Whether this represents a fundamental shift in ideology toward exclusive concern over the more modest objective of "job control," is difficult to know. Saposs seems to think that such a shift is not involved, for he ascribes the failure of ideologic dual unions in the United States to their leadership by radicals of the revolutionary type. He states (page 131) : "That radicals can build stable unions is proved by the success of European labor movements controlled by opportunist radicals. The needle trades are an outstanding example in the United States. . . . In their case the purely evangelical and crusader leader type either exercised little influence at the outset, or was soon superseded by the realistic hard-headed variety, concerned with the daily business problems of the organization."

But all the needle trades unions have not fared as well as the Amalgamated Clothing Workers. Mr. John A. Dyche, in *Bolshevism in American Labor Unions*, devotes most of his space to a discussion of the internal difficulties of the International Ladies' Garment Workers. His account is entirely lacking in the high plane of objectivity attained by Saposs, who combines his research in labor history with the results of extensive field investigations in various sections of the

United States. Mr. Dyche's extreme subjectivity is no doubt attributable to his having been deposed from the office of general secretary of the Ladies' Garment Workers. It is also not unlikely that the author's present position as an employer colors his opinions concerning wage-earners-employer relations. Nevertheless, in spite of manifest prejudice and occasional self-contradiction, Dyche's principle thesis warrants attention. He contends that the leadership of the Ladies' Garment Workers has indoctrinated "the class struggle" so thoroly in the minds of the rank and file that the leaders have found it impracticable to pursue a realistic policy of give and take with employers. Specifically, the impelling desire to "bekaemfen the boss" at all costs has led to a policy which has brought a multiplication of small "outside" contract and sub-manufacturing shops, to the detriment of the large "inside" plants, and at the expense of effective standardization of wages and other conditions vitally affecting the employee's income. Union "victories," because they have been motivated by the belief that the way to benefit the worker is to harm the employer, have been accompanied by a progressively worsened position for the clothing worker. Doubtless this analysis by Dyche omits major factors which are involved in the Ladies' Garment Workers' troubles. He is convincing enough, however, to make it clear that if the "conquest of power" is the ultimate desideratum of union policy, circumspection, such as the Ladies' Garment Workers have not evidenced, is essential.

Possibly this statement would meet the approval of Robert W. Dunn, author of the *Americanization of Labor*. But there is no question that he would take issue with Perlman's theory of the labor movement. No doubt lurks in Dunn's mind concerning the predestined goal of complete and unlimited "power" for the working class. Where Hardman is restrained in his criticism of the A. F. of L. leadership, Dunn is unsparing. The themes he is concerned with are the attempts to introduce the "American Plan" (open shop) on a large scale, the wide-spread development of company unionism, and the extensive introduction of welfare schemes

of various kinds — all with the object, the author takes for granted, of directly or indirectly weakening the inevitable tendency of the labor movement toward the attainment of "power." One may believe that Dunn's interpretation relative to the various subjects with which he deals is unduly simplified, but it must be acknowledged that he has done a good job in gathering and classifying much material, thus assisting the reader to reach his own conclusions. It is worth noting that the "conservative" unions, about which Dunn is extremely critical, are just as much concerned with counteracting the company union and the "welfare offensive" of the employers as are the "lefts."

It is difficult to determine whether this similar opposition on the part of both the "lefts" and the "rights" to the "Americanization of labor" supplies evidence tending to substantiate the "protective coloration" theory in regard to business unionism which was formerly held by William Z. Foster and to which Mr. Hardman at present subscribes. In Professor Perlman's view, as we have seen, the case is clear against such an interpretation. However, question arises in respect to the completeness of Perlman's counter-theory that "organic labor," when not temporarily misled by intellectuals' ideologies, desires only "job control" through "working rules." Perlman cites the working rules of the International Typographical Union as illustrating the kind of objective toward which all "organic labor" strives and beyond which it has no aspiration. Reflection, however, casts doubt on the feasibility of this kind of "control" for vast numbers of unskilled and semi-skilled wage earners. And with the tendency unabated toward industrial mechanization, accompanied by the consequent absence of skill as a requisite in numerous additional occupations, how can "job control" through "working rules" be made effective for these classes? Is "job control" as practicable for a worker on the assembly line of an automobile factory as it is for a printer? And which occupation is more representative of the dominant trend in industry?

Perhaps the answer for organized labor to this whole prob-

lem is largely supplied by industrial unionism. But it must be recognized that, before this possible remedy can be applied, there are real difficulties, the solution of which requires time. Not the least of these are the frequent over-supply of labor possessed of little skill, the "trustification" of wide areas of industry, and the "will to power" on the part of the business classes. These classes not only oppose the attainment of "ultimate power" by the wage earners, but also seem capable of bringing about, for large numbers, indefinite postponement of the more limited "job control" which Perlman regards as labor's natural objective. And the postponement thus effected, with resultant unrest, may prepare the ground for the radical ideologies sponsored by intellectuals. Under such conditions, however, to look upon the intellectuals as *the* "cause" of left-wing unionism appears inadequate — an opinion which is strengthened by Saposs's study on the subject.

Basic to the theories here discussed are certain implied assumptions concerning the degree of stability of our economic system, and, more important still, concerning the motivating forces in human nature. Perhaps before subscribing unreservedly to any final theory of the labor movement we need, for one thing, to know more about human nature. For another, we need to remember that the evolution of industrial technology and of society's institutional framework is subject constantly to the introduction of unpredictable variables. Because of these uncertainties, a tentative rather than a dogmatic theory is to be preferred. Moreover, even tho we grant the premise, which is now generally accepted among psychologists, that man is primarily an emotional rather than a reasoning being, we need to know much more than we do about the nature of his emotions and their relative strength. Nor should we forget that, while it may be that "human nature never changes," nevertheless, the evolution of industrial processes creates such differing environments in which "human nature" expresses itself, that the mores of groups undergo, in important respects, vital mutations from one generation to another: witness the influence in recent

years of the automobile, the cinema, and the radio, not to speak of the more basic changes that the Industrial Revolution inaugurated.

These remarks are doubtless trite. Yet perhaps there is some reason to submit them when one finds, for example, men like Mr. Hardman and Professor Perlman, both with a native background in Russia, both with exceptional opportunities during fifteen or more years to study and observe organized labor in the United States, reaching in the maturity of their judgment very different theories concerning the ultimate nature of the labor movement.

For the present, much as the mind is inclined toward a unitary theory in this as in other problems, it may be advisable to fall back upon some such pluralistic, "functional" theory as that advanced by Robert F. Hoxie some years ago in his *Trade Unionism in the United States*. Hoxie found it possible to classify as distinct functional types, business unionism, revolutionary unionism (of two variants, socialist and syndicalist), and, in addition, uplift, holdup, and guerilla unionism. We may admit that Hoxie doubtless failed to say the last word on the subject: all types but one may be ephemeral and transitory. Ultimately, Foster's "class-conscious wage slaves" may seize power; or Hardman's milder, more "sophisticated" method of gradually acquiring "social power" may realize its objective; or Perlman's "job conscious" unionism, with "control of the job" its sole objective, may succeed, because of its demonstrated "survival value," in eliminating all other contending forms of unionism. Out of the clash of conflicting theories we shall doubtless obtain some light which will illuminate future developments. In the meanwhile, a policy of watchful waiting rather than one of settled conviction is in order concerning the ultimate nature of the labor movement.

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NOTES AND DISCUSSIONS

THE CURRENCY SETTLEMENT IN ENGLAND

THE Currency and Bank Notes Act, 1928,¹ marks in English currency history the close of a phase which began when the Treasury notes were first issued in the critical days of August, 1914. For seventy years before that date English note issues had been regulated by Peel's Bank Charter Act, 1844. Then, under powers conferred by the Currency and Bank Notes Act, 1914, the British Treasury undertook the issue of £1 and 10s. currency notes through the Bank of England. As Dr. Walter Leaf says: "Under the Currency and Bank Notes Act of 1914, there was no limit whatever to the discretion of the Treasury; notes might be issued to any amount that the Chancellor of the Exchequer of the day thought fit, and no provision whatever was made for any gold backing. But a certain amount of gold, and subsequently some silver, was set aside as a partial cover. The percentage of gold to the total issue was entirely arbitrary."²

Before the passing of the Act of 1914 the fiduciary issue consisted of Bank of England notes amounting to £18,450,000. During the course of the war the Treasury note issue steadily rose to close upon £300,000,000; but after May, 1915, the gold cover for these notes "stuck" at £28,500,000. On November 6, 1918, a few days before the cessation of hostilities, the fiduciary issue was: Bank of England notes £18,450,000; Treasury notes £262,424,000.³

The Government, alive to the abnormality of wartime

1. 18 & 19 Geo. 5, ch. 13.

2. W. Leaf, *Banking* (1926), p. 52.

3. There were in addition, Treasury notes covered by gold, £28,500,000.

currency conditions and to the necessity of shaping a policy for the post-war period, appointed, in January, 1918, a Committee under the chairmanship of Lord Cunliffe, the Governor of the Bank of England, to consider the various currency and foreign exchange problems likely to arise during the period of reconstruction after the war; to report upon the steps best calculated to effect the restoration of normal conditions; and "to consider the working of the Bank Act, 1844, and the constitution and functions of the Bank of England, with a view to recommending any alterations which may appear . . . to be necessary or desirable."⁴ The Committee's interim report appeared in August, 1918, and its final report on December 3, 1919; and it is upon these documents that English currency policy during the last decade has been based.

The Committee's attitude toward the Bank of England and the Bank Charter Act, 1844, was extremely commendatory. They pointed out that during the remarkable development of the check system, the provisions of the Act of 1844 had operated automatically to correct unfavorable exchanges and to check undue expansion of credit. They held that prior to August, 1914, England had possessed a complete and effective gold standard, and recommended that "after the war the conditions necessary to the maintenance of an effective gold standard should be restored without delay." The early restoration of legal limits to the fiduciary issue of notes was advocated, as well as the termination of the arrangements under which deposits at the Bank of England could be exchanged for legal-tender currency without affecting the reserve of the Banking Department. Internal circulation of gold was thought to be neither necessary nor desirable for the future. "Subject to transitional arrangements as regards Currency notes," the Committee recommended that the whole currency note issue, "except as regards existing private issues," and the entire gold reserves should be concentrated in the hands of the Bank

4. The Cunliffe Committee consisted of 14 persons, including a professor of economics, several eminent bankers, and representatives of the Treasury and Ministry of Reconstruction.

of England. £150,000,000 was suggested as the normal minimum central gold reserve, the fiduciary issue to be fixed ultimately at such an amount as could be kept in circulation without causing the central gold reserve to fall below the normal minimum for the time being.

In 1920 the lapse of the last of the old note issues of the country bankers — Fox, Fowler & Company — had the effect (under the provisions of the Act of 1844) of increasing the fiduciary issue of Bank of England notes from £18,450,000 to £19,750,000.⁵ Meanwhile the Treasury note fiduciary issue had reached its peak point of £320,608,298,⁶ and the first move toward restriction of note issues had been made in the form of a Treasury Minute of December 15, 1919,⁷ by which the actual maximum fiduciary issue of Treasury notes reached in any year became automatically the maximum limit for the following year. Thus the Treasury note fiduciary issue could be deflated or kept constant;⁸ but it could not be inflated further so long as the policy laid down in the Minute was followed.

As everybody knows, the Gold Standard Act, 1925, implementing the reports of the Cunliffe Committee, took England back to the gold standard, but without internal circulation of gold. The details of the next move, which would deal with the note issues, were awaited with much interest. Dr. Leaf, who was Chairman of the Westminster Bank, wrote in 1926:

"It would seem then that, when the time comes for our issue system to be placed on a sound footing, by the transfer of the Treasury note issues to the Bank of England, and the consequent entire remodelling of the Bank Charter Act, it will have to be on lines similar to those which have received such authoritative approval from all the chief banking experts of

5. Vide Leaf, *op. cit.*, p. 33.

6. Total issue £349,108,298

Less gold cover 28,500,000

Fiduciary issue £320,608,298

7. This was, of course, nothing more than a declaration of policy, which could have been cancelled without notice at any time.

8. The limits decreased as follows: 1920, £320,600,000; 1921, £317,555,200; 1922, £309,988,400; 1923, £270,183,800; 1924, £248,190,900; 1925, £248,145,400; 1926, £247,902,500.

the world. That is to say, the Bank will have the sole issue of notes; it will be bound to keep against the notes at least one-third of their amount in gold, with exceptional power to go below this limit on payment of a heavy tax, to be recouped from the borrowers who require the further issue by a still heavier bank rate for discounts. The remaining two-thirds of the issue will be against approved bills and other first-class securities, to be rigidly defined."⁹

This method, however, has not been adopted. In spite of a good deal of weighty criticism, the Government followed the lines laid down by the Cunliffe Committee. Section 1 of the Currency and Bank Notes Act, 1928, confers upon the Bank of England power to issue bank notes for £1 and 10s. These notes, which may be issued at any place out of London without being made payable at the place of issue, are to be (a) payable only at the head office of the Bank of England, and (b) current and legal tender in England, Scotland¹ and Northern Ireland. All Bank of England notes are now to be legal tender for the payment of any amount, even when they are tendered by the Bank of England in London or at any of its branches.² The Act is to come into operation on an appointed day or days to be fixed by Order in Council; and from that time all Treasury notes issued under the Currency and Bank Notes Act, 1914, will be deemed to be bank notes.³ In consideration of the Bank of England's assumption of liability in respect of these transferred notes, sufficient assets from the Currency Note Redemption Account are to be transferred to the Issue Department of the Bank of England.⁴ The profits arising from the note issue are to be ascertained every year in a manner to be arranged between the Bank of England and the Treasury, and paid into the Exchequer.

Where the right of note issue of any bank in Scotland or Northern Ireland is limited by reference to the amount of

9. Leaf, *op. cit.*, pp. 77-78.

1. In Scotland, of course, there will also be the notes of the chief Scottish banks.

2. Currency and Bank Notes Act, 1928, Sec. 1 (3).

3. Sec. 4 (1).

4. Sec. 5 (1).

gold and silver coin held as cover, a holding of bank notes may in future be counted as gold coin.⁵

"With a view to the concentration of the gold reserves and to the securing of economy in the use of gold," the Bank of England is given power (a) to require from any person who owns an amount of gold or bullion exceeding £10,000 a statement containing full particulars of the holding; and (b) to buy compulsorily the whole or part of the holding, except such gold coin or bullion as is in good faith held for immediate export, or for industrial purposes.

The amount of the note issue, including, of course, the fiduciary issue, is fixed by Section 2, which is perhaps the most important section in the statute:

"2. (1) Subject to the provisions of this Act the Bank shall issue bank notes up to the amount representing the gold coin and gold bullion for the time being in the issue department, and shall in addition issue bank notes to the amount of two hundred and sixty million pounds in excess of the amount first mentioned in this section, and the issue of notes which the Bank are by or under this Act required or authorized to make in excess of the said first mentioned amount is in this Act referred to as 'the fiduciary note issue.'

"(2) The Treasury may at any time, on being requested by the Bank, direct that the amount of the fiduciary note issue shall, for such period as may be determined by the Treasury, after consultation with the Bank, be reduced by such amount as may be so determined."

And Section 8 provides as follows:

"8. (1) If the Bank at any time represent to the Treasury that it is expedient that the amount of the fiduciary note issue shall be increased to some specified amount above two hundred and sixty million pounds, the Treasury may authorise the Bank to issue bank notes to such an increased amount, not exceeding the amount specified as aforesaid, and for such period, not exceeding six months, as the Treasury think proper."

(2) Any authority so given may be renewed or varied

from time to time on the like representation and in like manner: "provided that, notwithstanding the foregoing provision, no such authority shall be renewed so as to remain in force (whether with or without variation) after the expiration of a period of two years from the date on which it was originally given, unless Parliament otherwise determines.

"(3) Any minute of the Treasury authorising an increase of the fiduciary note issue under this section shall be laid forthwith before both Houses of Parliament."

The fiduciary issue figure of £260,000,000 was arrived at as follows:

Maximum fiduciary issue of Treasury notes in 1927	£244,940,000
Fiduciary issue of Bank of England notes	19,750,000
	<hr/>
	£264,690,000
<i>Deduct</i> Treasury notes in use in Irish Free State, shortly to be replaced by I. F. S. notes	6,000,000
	<hr/>
	£258,690,000

In round figures, £260,000,000.

As cover for this issue the Bank of England is to hold sufficient securities in the Issue Department, except that silver coin not exceeding £5,500,000 may be held as cover. No new securities will be bought, because those held by the Treasury on Currency Note Redemption Account exceed the cover required for the new fiduciary issue. The excess of securities not transferred to the Bank of England will be sold, the proceeds going to the Exchequer.

It was neither likely nor desirable that a currency measure of this kind would pass through Parliament without challenge. The Government said they had accepted the principle that the regulation of all the paper currency ought to be in the hands of the authority which regulated the terms of credit, namely, the Bank of England, subject to such general principles as Parliament may lay down from time to time. But here the central point of controversy arises. How ought the fiduciary note issue to be regulated?

Two considerations seem to be of primary importance:
(1) the allowance of sufficient elasticity to meet normal

changes in the currency needs of the community; (2) the adaptation of reserve limits to the state of world markets in gold and gold currency. Much competent criticism was leveled at the Bill, both in Parliament⁶ and outside, touching the alleged lack of elasticity of the proposed fiduciary issue. In May, 1928, England had more than one million men unemployed, mainly in the heavy industries, and it was urged that in the event of a trade revival great enough to absorb the bulk of these men at existing wage-rates, — to say nothing of the concession of higher wages, — the natural demand for currency would easily outstrip the sum of £260,000,000. Doubt was expressed whether the gold reserve could be increased far enough or fast enough to make available a sufficient supply of gold-covered notes. Moreover, the first step in this direction — raising the Bank rate — would itself operate as a check to the long-desired recovery of trade and industry. But the Bank of England might take the alternative course of applying to the Treasury under Section 8 of the new act, for authority to increase the fiduciary issue of notes. It is possible to argue that neither course is ideal, and that it is undesirable that the business world should not know whether a rise in the Bank rate or an increase of the fiduciary issue will occur first.

The Labor Party thought that the moment was opportune for thoro reorganization and demanded (a) that the Genoa Conference resolutions should be implemented in full, especially those upon international coöperation in the use of gold, the regulation of its distribution, and of its value, so as to maintain stable price levels; and (b) the revision of the constitution of the Bank of England. Mr. Philip Snowden urged that, altho the Bank of England discharged its important functions with a full sense of its great public responsibilities, it was hampered by an archaic constitution which needed a thoro overhaul in view of the modern development of central banks in other countries and "the recent emergence of America as a lender in the international market."⁷ England's central bank should be a public corporation composed

6. Hansard, vol. 217, pp. 697 et seq.

7. *Ibid.*, p. 708.

of the ablest men representing finance, industry, the Coöperative and Labor movements, and the Board of Trade.

On the other hand, Dr. T. E. Gregory pointed out in the press that altho throughout its history the Bank of England had hardly ever been free from attack, it had (while often preserving old forms and customs) actually shown great adaptability to changing conditions. Quite recently the Bank had accommodated itself to the return to gold; to the presence of a great trans-Atlantic power; and to the abnormal demands arising from economic reconstruction in Europe. Austria, Hungary, Greece, Germany, all had reason to thank the Bank of England. "The 'Old Lady,'" Dr. Gregory wrote, "shows plenty of vitality; the pity is only that she is so unwilling to talk about herself. The Bank is too secretive; and, in these days at least, good government is no substitute for secret government."

With regard to the Geneva Conference resolutions, the same writer argued that, in fact, coöperation between central banks was already a *fait accompli*; "the periodical meetings of the Governors of the Banks of England and of France with the Governor of the Reichsbank and the Reserve Bank of New York represent a kind of international financial Cabinet, whose decisions have not, indeed, the force of law, but are capable all the same of coördinating policy and preventing dislocation."⁸

Mr. John Maynard Keynes stressed the need for amendment of the English currency system because the conditions it was originally designed to meet have finally passed away. He doubted the ability of the Bank of England to protect its reserves without enforcing a contraction of credit injurious to home industry, and stated his view that too much of the English gold reserve is immobilized. For the near future the fiduciary note issue, he thought, ought to be not less than £300,000,000.⁹

However, as we have seen, the new act retains the old

8. The Observer, May 20, 1928.

9. The Times, May 12, 1928. Mr. Keynes's letter to the Times is reprinted in the Economic Journal for June, 1928.

framework, requiring a gold cover for all notes in excess of the fiduciary issue, which has been fixed at £260,000,000. The trade revival has not arrived, so that the soundness of the new currency law cannot yet be tested by experience. My own opinion is that more elasticity could be obtained in a less cumbersome manner by the adoption of the method of taxing progressively all issues of notes in excess of a certain limit.

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BORROWED RESERVES AND BANK EXPANSION

IN Mr. J. S. Lawrence's paper on "Borrowed Reserves and Bank Expansion," which appeared in the last issue of this journal, there seem to be some doubtful points. It is the purpose of this note to direct attention to certain conclusions which may be called in question.

In the first place, Mr. Lawrence does not believe that some of the distinctions made by Professor Phillips (Bank Credit, chapter 3) between primary and derivative deposits are entirely justifiable. The latter, according to Phillips, are rapidly withdrawn, while the former tend to be relatively stable. Lawrence objects on the ground that many primary deposits do not exhibit such stability. The salaried man's account is swelled at the first of each month,— or fortnight,— but is rapidly dissipated as checks are written to pay current bills. The storekeeper's account is large at certain times and small at others. And so it is with a large percentage of so-called primary deposits. This, it seems to me, is mistaken criticism. No one, to my knowledge, ever seriously supposed that any individual primary deposit was relatively stable. But the general level of such deposits tends toward relative stability. On the ground of probability, withdrawals will be offset by deposits, leaving the total comparatively unchanged. Such, however, is not the case with deposits resulting from loans — the so-called derivative deposits. They are practi-

cally certain to be withdrawn in large part shortly after the loans have been granted, and there is no reason for expecting any compensating deposits — in so far as the checks drawn against them are deposited in other banks — to offset such withdrawals.

On the other hand, there is considerable question as to the desirability of the term "derivative deposits" as it is used by Professor Phillips. Under this head, he includes not only the immediate deposit credit which the bank gives to the borrower, but also such deposits as the borrower allows to remain in the bank during the life of the loan, plus any funds deposited by the borrower with a view to repayment of his loan at maturity. It is "derivative deposits," thus defined, which Phillips estimates to amount, on the average, to 20 per cent of the sum borrowed, an estimate which Mr. Lawrence considers entirely too low. As a matter of fact, the amount which the borrower leaves in the bank during the life of the loan, as well as the amounts which he may deposit as the loan approaches maturity, have nothing to do with the question whether or not he makes use of the entire amount which he borrows at the bank.

The point just made has been brought out in clear and concise fashion by Professor R. G. Rodkey in his recently published book, *The Banking Process*. Rodkey's discussion in this connection is so lucid and so much to the point that it merits quotation at some length. After describing the usual requirement that bank customers shall maintain average balances which are proportionate to the amount of accommodation they require from the bank, he proceeds with the discussion as follows (pages 181-184):

"We thus see that in the typical instance the applicant for a commercial loan is already a depositor in the bank where the accommodation is requested, and that the size of the loan which reasonably may be expected is in some measure dependent upon the size of the balance usually maintained. Let us suppose that Corporation B has only one bank account, and that with Bank X. The balance it has maintained during the past twelve months has averaged \$20,000, and at the

present time it is \$25,000. For the purpose of taking advantage of certain cash discounts and to make an especially advantageous purchase, it now requests a loan of \$100,000. All the factors entering into its financial standing may be assumed to be sufficiently satisfactory to justify an advance of this magnitude provided a cash position of from \$15,000 to \$25,000 is maintained. The loan is granted, and all of it, not merely part of it, is used. Perhaps during the life of the loan it may become necessary for Corporation B to draw down its free balance to \$15,000. That is, in addition to using the entire proceeds of the loan it reduces its free balance to the minimum consistent with safety. At other times during the year its balance may be expected to be sufficiently larger to ensure that the average does not fall below twenty per cent of the maximum accommodation received.

"It is safe to assert that there is no commercial bank in the United States whose requirements as to balances on borrowing accounts are any more severe than that assumed in this hypothetical case. It illustrates the operation of the famous twenty per cent rule which has engrossed the attention of so many writers. It provides no devious channel through which a higher rate of interest may be secured. Whatever amount the bank lends it expects the borrower to use. But it will not lend at all unless it is satisfied with the current financial position of the customer, and probably the most important single element in that financial standing is the cash position. In other words, a strong cash position constantly maintained is one most important item of evidence serving to convince the bank that the customer will be able to meet his commitments as they fall due. If Corporation B in the above illustration had needed to make payments of \$125,000 instead of \$100,000, it would have been necessary for it to reduce its bank balance to zero. This would be unsatisfactory to any bank, not merely because it would be losing the original deposit of \$25,000, but because the loan of \$100,000 itself would be rendered unsafe thereby. . . . Deposits in a given bank derived from loans in that bank are almost negligible in amount. The lag between the discounting of a customer's note and

the drawing out of the proceeds, and the building up of his account prior to the maturity of his loan, turn out to be merely means whereby proportionate balance requirements are partially met. What the bank lends, its customers use. So far as the individual bank is concerned, therefore, it cannot hope materially to increase its deposits through the process of extending loans to its customers. If its deposits are not increased in this way it is evident that its loans cannot be increased either."

The quotation should suffice to show the objection to Professor Phillips's use of the term "derivative deposits" and to Mr. Lawrence's criticism as well.

Let us consider next a second criticism of Professor Phillips's analysis in Mr. Lawrence's paper. Strong objection is raised to Phillips's estimate that 99 per cent of all checks drawn pass through a clearing operation. This objection rests on the basis of a series of estimates made by Lawrence for the years 1922-1926, which indicate that, on the average, only 63.6 per cent of all checks drawn are cleared. It is difficult to reconcile this conclusion with that of Carl Snyder (*Business Cycles and Business Measurements*, page 135) for the years 1919-1922, during which period clearings amounted to some 88 per cent of debits to individual accounts. It seems unreasonable to suppose that so marked a decrease in the proportion of clearings to debits could have occurred between two periods which overlap in the year 1922. But even if Lawrence's estimate of 63.6 per cent be accepted, it does not follow that checks drawn by borrowers against the proceeds of loans are to be considered in the same light — with regard to the proportion cleared — as the total of checks drawn. As I have pointed out elsewhere (*Money*, page 285 n.), checks drawn to make retail payments — payments of the sort made by householders at the first of the month — are very much more likely to be redeposited in the banks on which they are drawn than checks drawn by borrowers. The latter are, in the usual case, sent out of town, for dealers and manufacturers seldom purchase their supplies in the same locality in which they sell their products. It is, of course,

impossible to determine from published data what proportion of the checks drawn by borrowers against the proceeds of their bank loans pass through some clearing operation, but quite certainly it is considerably higher than Lawrence's estimate of 63.6 per cent.

The final conclusion of Mr. Lawrence's paper is that an individual bank may normally expand loans on the basis of acquired surplus reserves to an amount considerably in excess of the acquired surplus, and he points out that this "will give scant comfort to those who contend that credit may be controlled by a manipulation of the discount rate." I have given two reasons for believing that this conclusion is open to serious question. One further point is worthy of attention. Mr. Lawrence is of the opinion that if all the banks of a system are expanding loans and deposits simultaneously, the limit to the possible expansion of loans by an individual bank is only that fixed by the reserve requirements of the law. This quite overlooks the point made by Professor Phillips (*Annals*, January, 1922, page 197) as follows: "When all banks in a given credit area are expanding their loans, the additional lending power of each is traceable to *two* quite different facts or forces. The first is the fund *borrowed* by the commercial or member bank, and the second is the fund or funds that such a bank receives through deposit channels and as a result of the lending operations of other banks. The point to be stressed is that what a member bank borrows does not determine the amount that it will receive in deposits that arise out of the lending operations of other banks." In considering the possibility of credit control by means of manipulation of the discount rate this distinction is highly important, and that it is sound can scarcely be questioned. According to Mr. Lawrence's conclusion, in times when all banks are expanding their loans, an individual institution could expand its loans to some ten times its deposits of checks on other banks as well as to ten times its borrowed reserve, for such deposits of checks could be collected and deposited with the reserve bank, thus building up the reserve account of this particular individual bank. Altho this is bound to follow, it

is more probable that Mr. Lawrence intends to imply that there is a difference between borrowed reserves and deposits of checks on other banks so far as the loan expansion of the individual bank is concerned. If such a difference were possible, then lending on the basis of borrowed reserves would be considerably more profitable than the lending of deposits, and it is hardly conceivable that a mere dislike on the part of bankers to being in debt would prevent them from borrowing continually at the reserve bank on such profitable terms. All told, the case for discount-rate control does not seem to rest on such shaky foundations as Mr. Lawrence would like to suppose.

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EQUILIBRIUM IN INTERNATIONAL TRADE

THROUGH his article with this title in the May number of this journal, Professor Angell has made another valuable contribution to the theory of the mechanism of international trade. He has formulated clearly some neglected problems, and has contributed toward their solution. But his analysis, I submit, is open to criticism.

The most important weakness in his account of the mechanism of adjustment is that he gives an unduly prominent place to price variations. Central-bank policy, in Professor Angell's opinion, seems to affect the balance of trade only by means of preceding variations in the price level. A restriction of credit, for instance, will deflate prices and *thereby* reduce imports and increase exports.

This is, I think, contrary to the facts in many cases. Especially in small countries, it frequently happens — indeed, as far as I know, almost without exception — that the reduced or increased purchasing power affects the volume of exports and imports *directly*, and much more quickly than it affects the price level. This is most clearly seen in paper-standard

countries, where the variation of the foreign exchanges usually *precedes* a change of import and export prices and is the direct cause of such change. Prices of domestic goods react much more slowly. Thus the immediate cause of the higher or lower price level is not the changed credit policy in itself, but the influence which this policy exercises on the trade balance, the foreign exchanges, and thereby on the prices of international goods directly and other goods indirectly. In a word, credit policy affects the prices of foreign bills quicker than the prices of commodities.

The experience of countries like Czechoslovakia, Denmark, and Norway, after the war offers many examples of such a development. Indeed, it would be difficult to find a single instance where the price level changed in advance of the foreign exchanges or even parallel with them.

To develop and illustrate this idea further would carry me too far. In this note I want chiefly to draw attention to another side of Professor Angell's paper. When he comes to the application of his theory to the case of the United States' balance of payments after the war, his results are, as he admits himself, disappointing. The exportation of capital was subject to several important variations. To maintain equilibrium in the balance of payments, the mechanism outlined in his paper should have been at work. Professor Angell, however, can find no traces of it in the actual development.

It is somewhat surprising, therefore, to find him conclude not only that "The machinery for the correction of disturbances of course exists" but that it is the very machinery outlined in his paper. The explanation is that there has been no need of bringing it into operation. "Whether because of common origin, because of some hitherto unsuspected relationship between them, or because of pure accident, — but most probably the first — the great changes in our balance of payments since the war have substantially offset one another as they occurred."

Professor Angell does not seem to suspect another possibility, altho it should have been fairly close at hand. The theory expounded may be wrong. The adjustment may pro-

ceed much more smoothly than this price-variation mechanism assumes, and may, therefore, be difficult to verify. Its effects may be so insignificant as to be lost in the many different variations and disturbances of the post-war period.

However, let us assume the machinery of readjustment to be on the whole what Professor Angell thinks it is. Credit policy and price variations are important, perhaps *the* important elements in it. Is it possible to investigate whether this machinery has actually been at work or not, by studying exclusively the conditions in the United States? Obviously not. Credit and price variations should normally occur both in the United States and abroad. It is not at all necessary, or even probable, that they should be of equal magnitude in both regions. If the disappearance of an American export of capital should cause prices in the United States to rise relatively to prices in Europe, then this result might well be obtained even if the price level in the United States were constant; prices in Europe might fall. In such a case there would be little or no sign of the easy money market, and so forth, which Professor Angell would expect in the United States. On the other hand, credit restriction would be harder in Europe than it would be if the process of readjustment were more evenly "divided" between the two regions.

I make this suggestion, then. The equilibrium in the American balance of payments since the war has been maintained by some credit and price mechanism not widely different from that described by Professor Angell, yet not identical with it. But this machinery has been at work chiefly in Europe, leading nevertheless to the changes in the international *relations*, which are the decisive part of the mechanism.

It is not easy to prove that such has been the case. Post-war conditions in Europe have not been characterized by stability and offer no good opportunities for verifications of economic theory. As far as price levels are concerned, I think, however, that some support for my opinion can be found.

The considerable export of American capital in 1922, about \$650,000,000, disappeared in the following year. As a matter of fact there was a small excess of import of capital, amount-

ing to \$100,000,000. In 1924 the situation was again about what it had been in 1922, the net export reading \$500,000,000. How did this sudden disappearance of a "normal" export of capital in 1923 affect relative price levels?

Unfortunately, price statistics for these years are not apt to give a very reliable answer to this question. In countries with widely fluctuating paper currencies like France and Germany the price levels were, of course, dominated by other things than capital movements. In a comparison of price changes in the United States and other countries one must therefore let the latter be represented by a comparatively small number of countries having fairly stable monetary conditions.

The Federal Reserve Board computed index figures for wholesale prices in the United States, Canada, and Great Britain, using identical commodities and weights. A Swedish paper made a corresponding computation for Sweden. In terms of gold the figures are:

	U.S.	Canada	Great Britain	Sweden
1922	158	147	156	159
1923	165	147	150	157
1924	159	145	159	157

It will be seen that while prices in 1923 were lower in Europe than in the preceding and following year, they were considerably higher in the United States. In Canada there was no such relative increase. Thus the figures corroborate the view that the disappearance of the capital export from the United States tended to raise the price level of that country relative to prices in other countries.

If we turn to the ordinary price indices, the same thing seems to hold. In the following table the figures for Great Britain represent a simple average of the four indices computed by the Board of Trade, the Economist, the Statist, and the Times. Similarly, the Swedish figures are an average of the two indices published by the Board of Trade and the Svensk Finanstidning. All figures are on a gold basis.

	U.S.		G.B.	Sweden	Holland	Canada
	Bureau of Labor	Brad- streets				
1922	149	131	147	162	157	152
1923	154	145	152	148	148	153
1924	150	140	155	157	150	165

If, for the sake of comparison, an arithmetic mean of the two American and the four other indices is computed, the result is the following:

	U.S.	Four Countries
1922	140	154½
1923	149½	150
1924	145	157

Evidently prices in 1923 were considerably higher in the United States than in the preceding and the following year. In the other countries the reverse was the case. The reversal of the capital movement from 1922 to 1923 seems to have raised American and lowered other prices, while the renewal of capital export the next year had the opposite effect; all in accordance with the orthodox theory.

I do not suggest that such figures can be considered as proofs of this theory of capital movements, expounded and developed lately by Professor Taussig and his followers. But as far as the figures go, they point in this direction.

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